

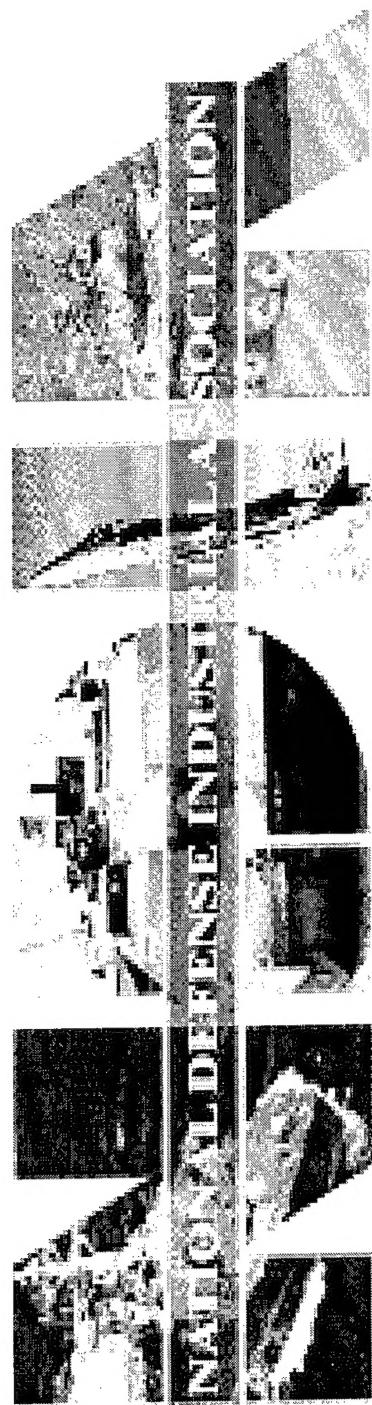
19991029 022

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# ATLANTA XXV

19-21 APRIL 1999

STRENGTH THROUGH INDUSTRY & TECHNOLOGY



DTIC QUALITY INSPECTED 4

**ATLANTA XXV**

**19-21 April 99**

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001

DATA  
FILE  
NAME

INDUSTRIALISTS  
IN DRA  
OLIVE

CONGRATULATIONS !!!

On your  
SILVER  
ANNIVERSARY

# AMC Is Engaged In Worldwide Operations

नियमिती ३ ((२/१))  
ब्रह्मण्डामार्ग ७९४ ((२८६/४५/४६७))  
भौम्य ४० ((१४/२६))  
प्रत्यक्षलग्नात्मक १४४ ((कु/७))  
नेतृत्वात्मकत्व १०३ ((५५/४८/६))  
उर १२ ((कु/३))  
द्विव्यंधन २५ ((१० / १५ ))

व्योमस्थल २ ((कु/२))  
श्वसक्ति छिं((कु । १५))

प्रथानिकारी अस्त्र १७ ((१७ / ०))

द्विव्यंधन  
द्विव्यंधन

माताप्रथात्मक ३((२/१))  
नियमिती ३ ((२/१))

माताप्रथात्मक १४४ ((३/४/१३४))  
व्यापकतात्मक १ ((१/१))

क्रान्तिकी  
ज्ञानक्षमी

द्विव्यंधन २ ((२ /०))  
क्रान्तिकी ४ ((४/०))

माताप्रथात्मक ३((२/१))  
नियमिती ३ ((२/१))

द्विव्यंधन  
द्विव्यंधन

माताप्रथात्मक ४१ ((३५/६))

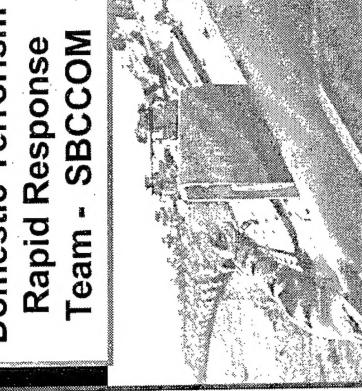
Counter Drug  
Operations

Operations:  
Just Cause  
Desert Storm  
Provide Comfort  
Southern Watch  
Vigilant Warrior  
Restore Hope  
Support Hope  
Uphold Democracy  
Safe Haven  
Vigilant Sentinel



Events:  
Hurricanes:

- Hugo  
- Andrew  
- Iniki  
- Mitch  
LA Riots  
Western Fires  
Midwest Floods



Domestic Terrorism  
Rapid Response  
Team - SBCCOM

## Business Practices

Total Quality Management

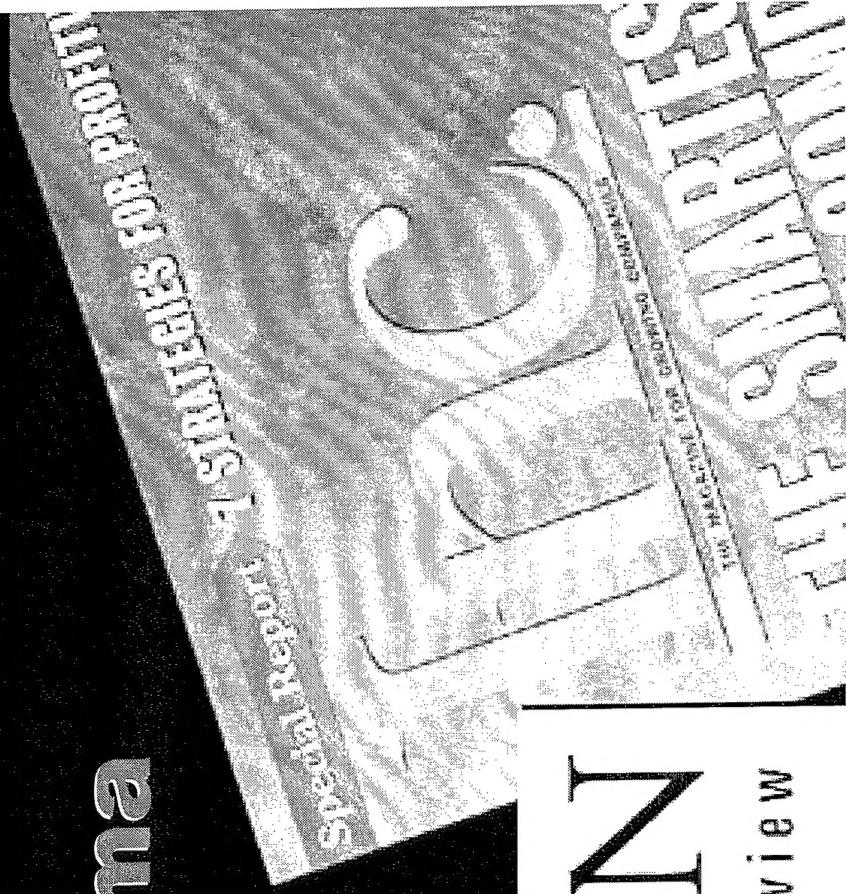
E-Commerce

Six Sigma

FORUM

SLOAN

Companies  
Extreme  
Investing  
pushing  
tech  
now.



Management Review

**Just in Time**

**Reengineer**

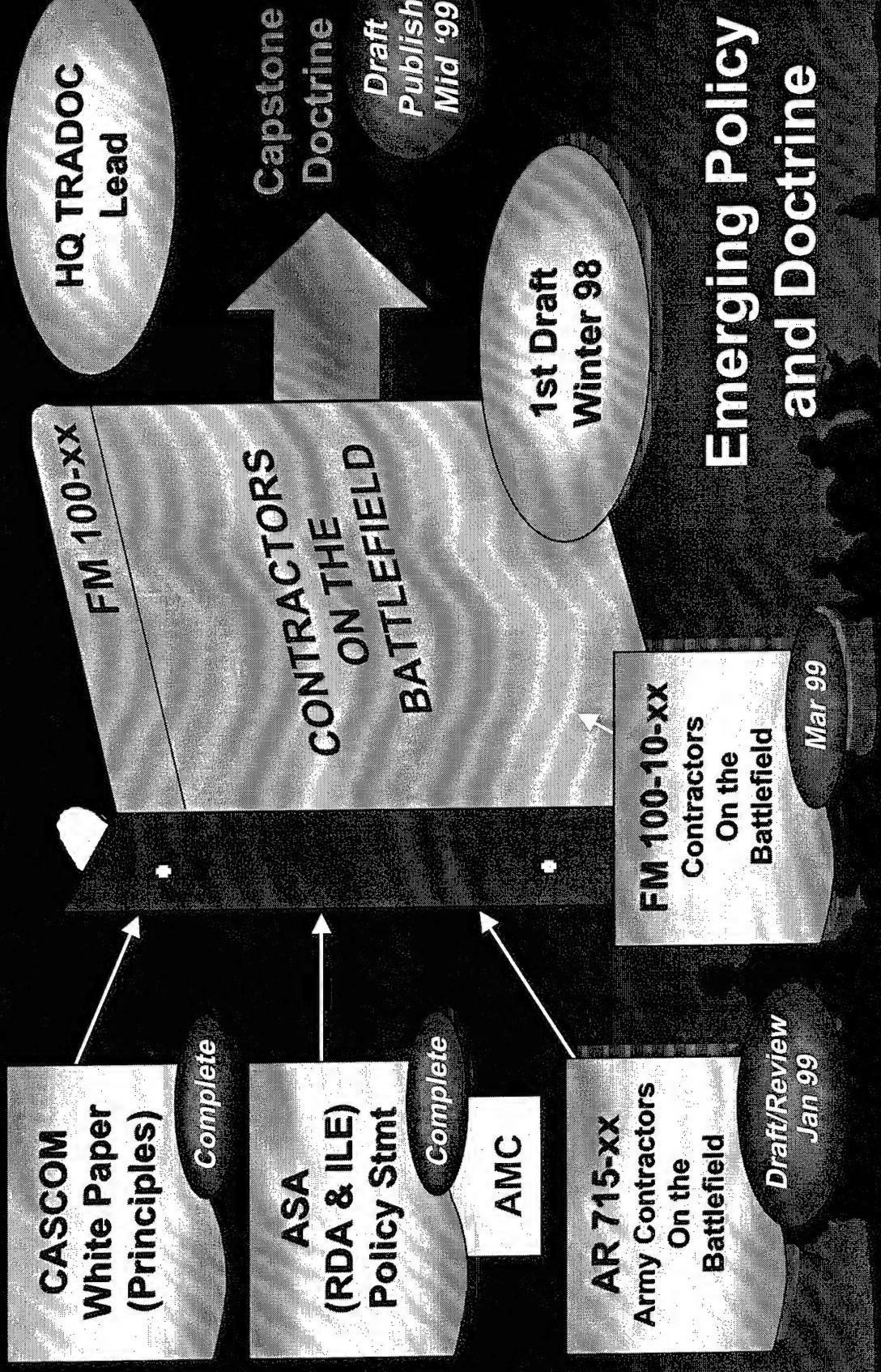
**Intransit Visibility**



*"It's not bad to depend  
on the contractor for a long period...  
  
I've always believed that you can  
support the Army in the  
field with contractor support..."*

L T G . . . United States Army

# Civilian Contractors on the Battlefield



# Operation Joint Endeavor/Guard

## LOGCAP TASKS

\* Facility Setup & Maintenance

\* Upgrade Existing Facilities

\* Waste Management

\* BIOMED/HAZMAT

\* Power Generation

\* Showers and Latrines

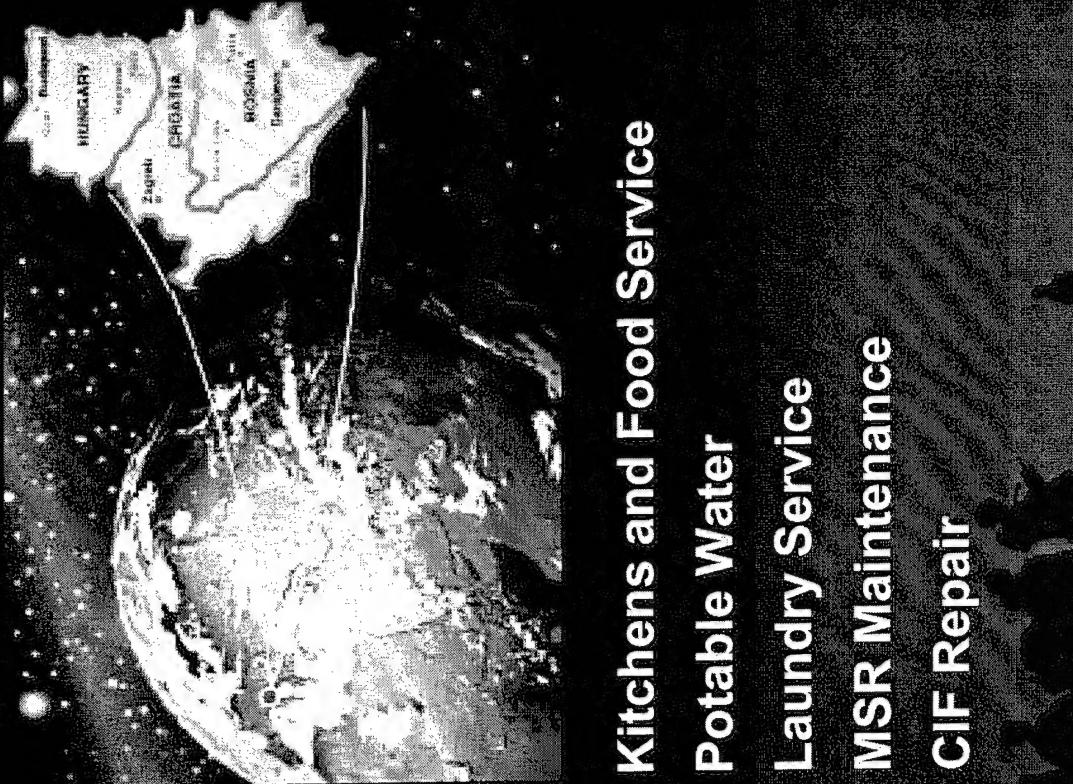
Kitchens and Food Service

\* Potable Water

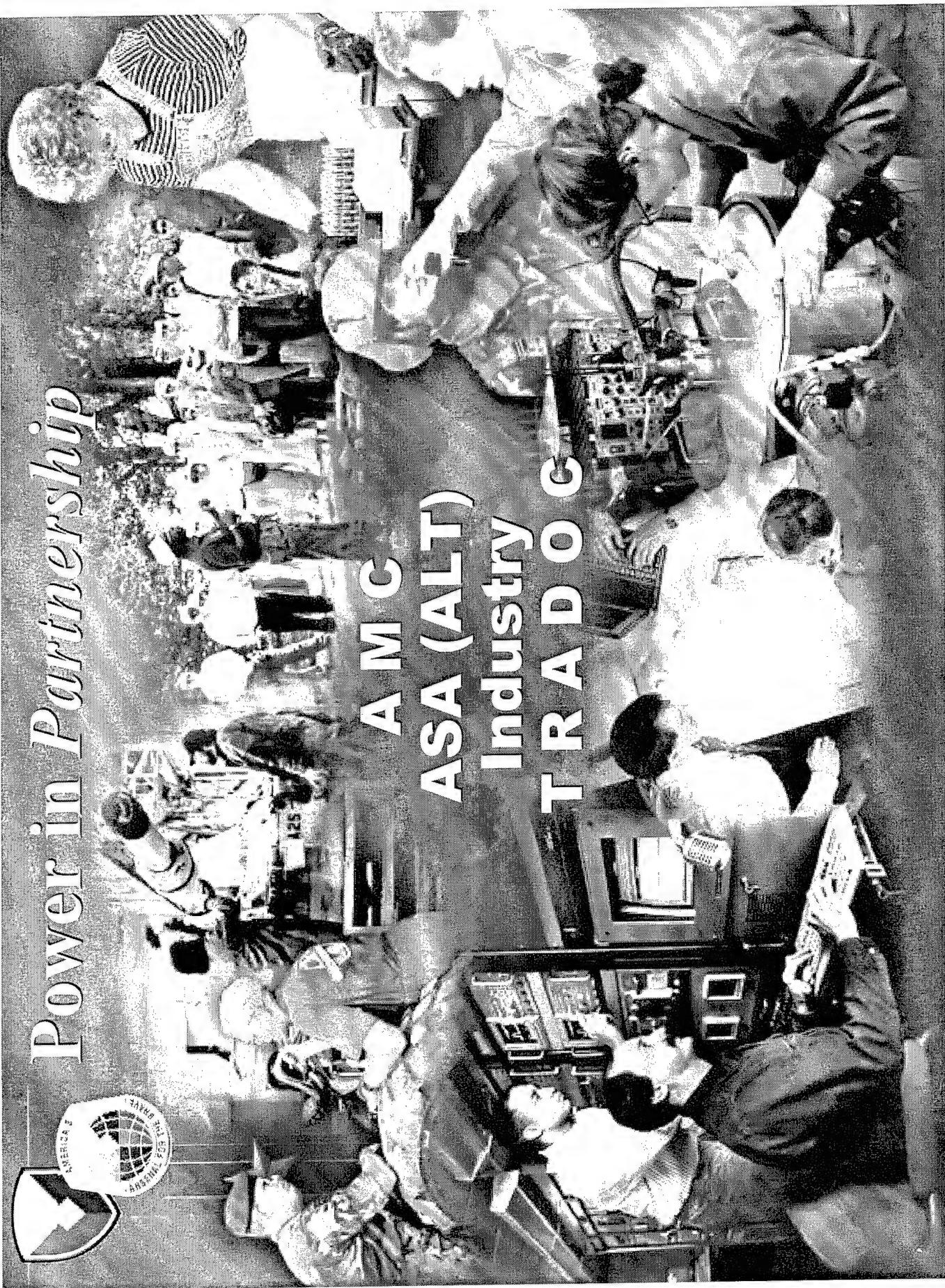
\* Laundry Service

\* MSR Maintenance

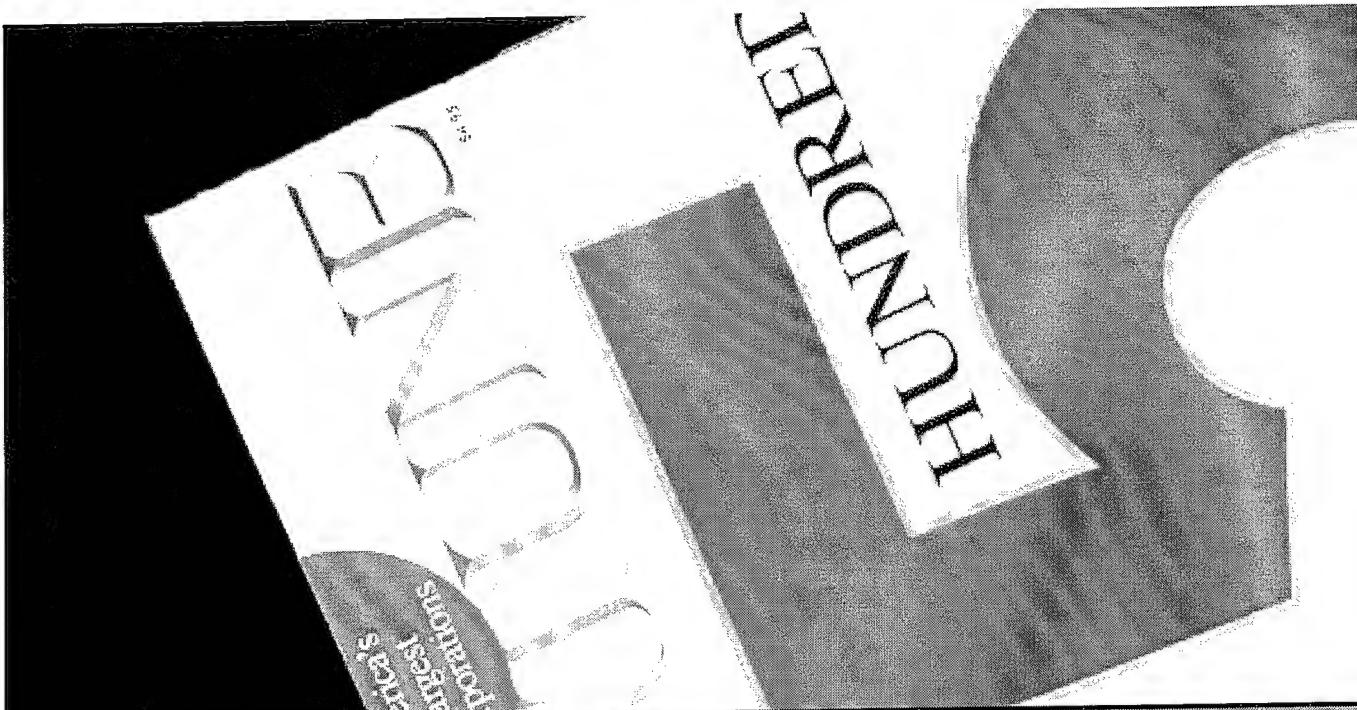
\* CIF Repair



# Power in Partnership



*“...the depot system... will never totally disappear, but I believe it should in part. You can get that support cheaper, better, and faster from industry.”*



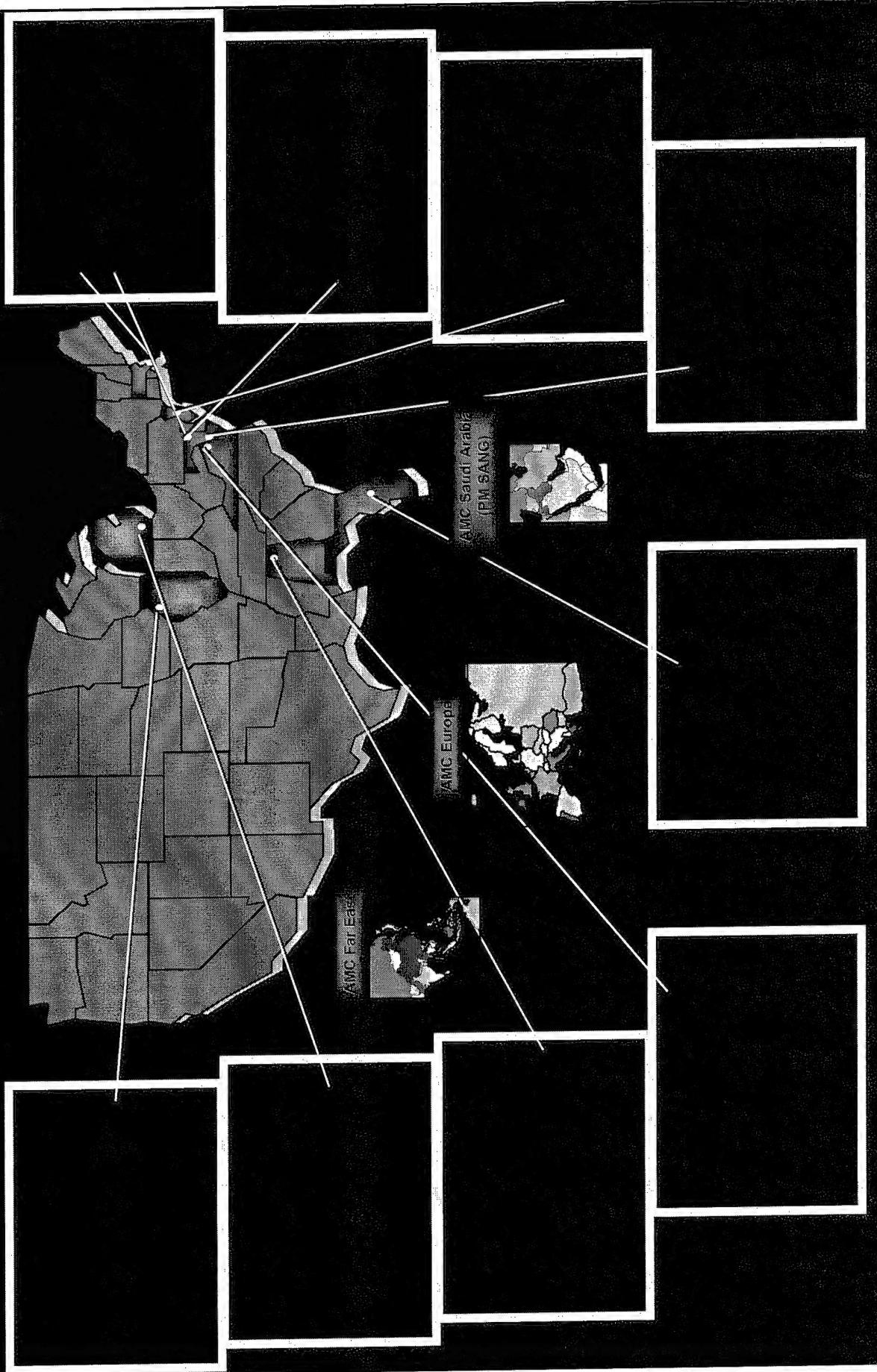
The Microsoft Diaries  
(Cont'd.)

INSIDE:  
MEGAMERGER  
MANIA  
*A Complete Scorecard Of  
The Biggest M&A  
Year Ever*

Citigroup:  
Off to a Rocky Start  
DaimlerChrysler:  
The Germans Rule  
Dumb Deals:  
Investors Beware

FOR  
Companies  
extreme  
investing  
pushing  
tech  
now.

# America's Arsenal For The Brave



# HQ AM C

USA SAC	TACOM	AM COM	M ISSUE & AVIATION RDEC	CECOM RDEC	TYAD	AMMUNITION PLANTS and ARSENALS	TD C	SBCCOM	TECOM	PROVING GROUNDS	RANGES	TEST CENTERS	SEAD	UM AD	SEA
	STRICOM	CECOM													

**Public Private  
Competition**

*Competitive Sourcing*

**Leveraging  
Information Technologies**

**Changing  
Processes**

**Reorganization**

*Expansion of Partnering*

# FY99 ALT/PLT Goals

Administrative Lead Time - 57  
+ Production Lead Time - 188

---

Total

245 Days

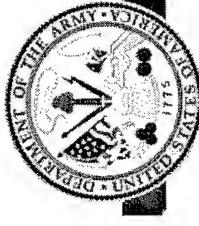


...; and looking for 220 Days for FY00

# E-Commerce: Your Link to Opportunity Army Opportunities

Acquisition Business Web Site - Netscape

File Edit View Go Communicator Help



## Acquisition Business Web Site

"Serving the U.S. Army Acquisition Community"

### Army Contracting Opportunities

Your entry to all open Army Solicitations

#### Acquisition Business

Solicitations,  
Executive Information System,  
Electronic Commerce Links,  
Solicitation Maintenance,  
Registration and Feedback

#### Source Selection Resource Center

Obtain Source Selection Guidance:  
Best Value  
Past Performance  
Oral Presentations  
Debriefings

#### Acquisition Tool Set

\* Web Browser Plug-ins

## Acquisition Business

Select a site from the list below and press GO!

## Source Selection Resource Center

To those who have had difficulty getting information on the Internet, easy access to global information has resulted in its explosive growth. Publishing information on the Internet is now common and relatively easy. However, conducting business using Internet technology is evolving commercially and is now a DOD directive. This site is the result of Army Web-based initiatives to apply Internet technology.

This Web site has been established by the Strategic Acquisition Division (SARD) as part of their Web-based Internet, providing an Executive Information System (EIS) access to procurement data, allowing remote site processing; integration of workflow into the procurement process; and definition of retail logistics interface requirements. The challenges include interfacing with the Standard Procurement System (SPS) and JEDMIC/S.

## Acquisition Tool Set

Document: Done

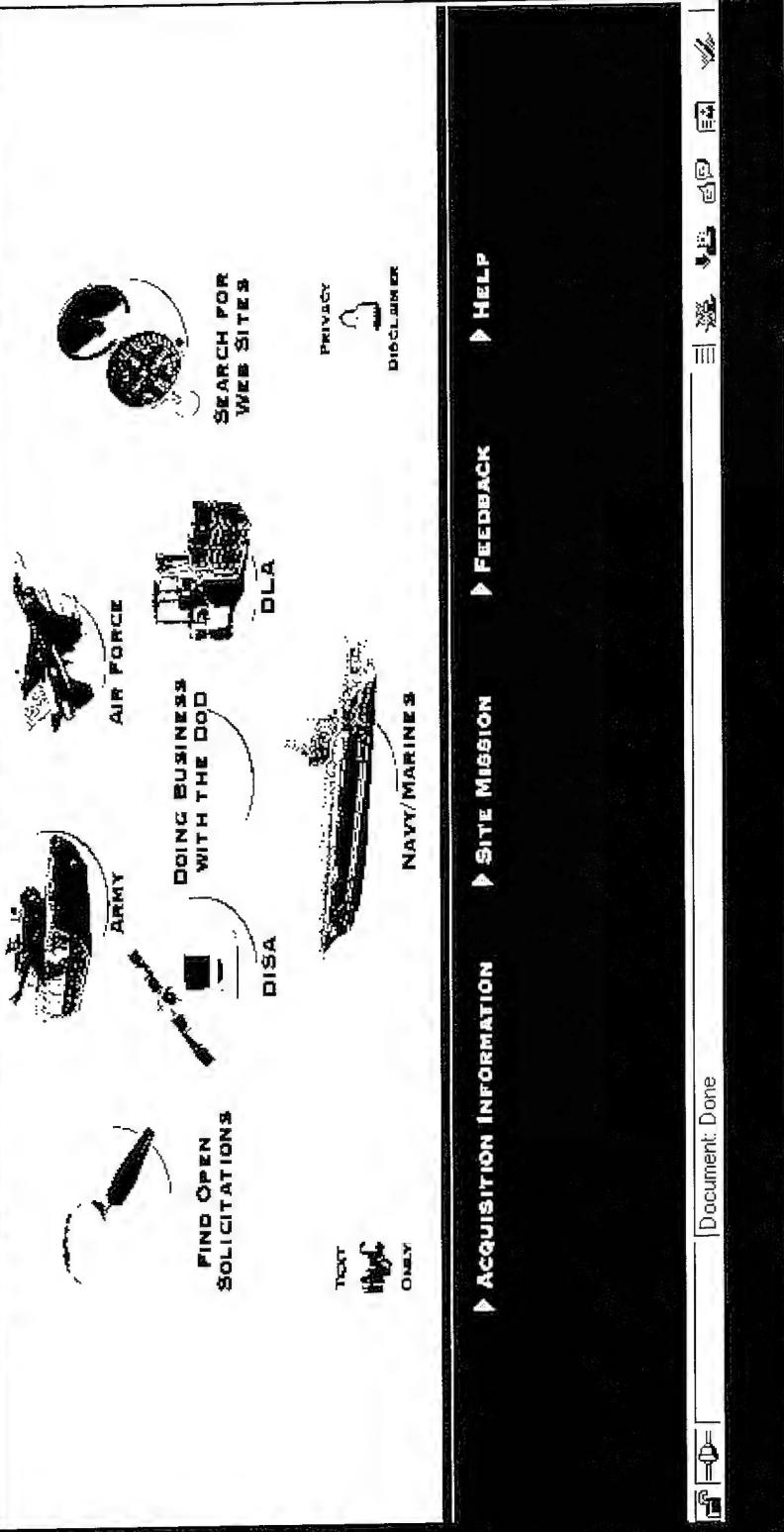
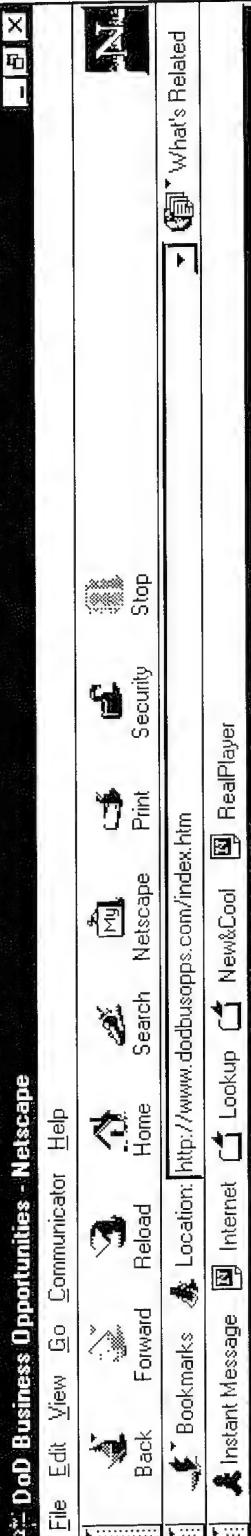
Linked  
to DoD

017

# Linked to DOD

# E-Commerce: Your Link to Opportunity

DOD Business Opportunities - Netscape



# Army Single Face to Industry

## Locate Solicitations

Acquisition Business - Netscape

File Edit View Go Communicator Help

Directions

• Acquisition Business

To search for solicitations:

- ✓ To view documents, you may need browser plug-ins. Click here to select and download a plug-in.
- ✓ Enter information into one or more of the fields.
- ✓ Select additional criteria from the pull-down lists.
- ✓ If criteria is entered for more than one field, the entries will be treated as AND conditions.

Contracting Office is:

ANY

Armatment & Chemical Acquisition & Logistics Activity

Aviation & Missile Command - Aviation

Aviation & Missile Command - Missile

CECOMUSA Communications & Electronics Command

DAACEB

DAAN01

Fort Belvoir Military District of Washington Acquisition Center

Fort Campbell

Fort Meade

Fort Myer

Fort Stewart

Industrial Operation Command

Leterkenny Army Depot

McAlester Army Ammunition Plant

Medical Research Acquisition Activity - Ft. Detrick

Natick Contracting Division

Natick Contracting Division - Base Operations

Tank-Automotive & Armaments Command

Tooele Army Depot

FSC Lookup

National Item Identification Number (NIIN) is equal to:

(NIIN is the last 9 characters of the National Stock Number)

Document Done

# Multiple Search Options



# Army Single Face to Industry

## Multiple Search Options



Acquisition Business - Netscape

File Edit View Go Communicator Help

 Directions

To search for  
solicitations:

> To view documents,  
you may need browser  
plug-ins. Click here to  
select and download a  
plug-in.

Locate Solicitations where:

Contracting Office is:

[ANY]

Solicitation Number is equal to:

Closing Date is: (Date format is DD-MON-YYYY (Example:  
01-JAN-2000))

After [ ] and/or  
Before [ ]

Standard Industrial Classification (SIC) is equal  
to:  
(You may enter up to 10 codes separated by commas)

> SIC Lookup

Federal Supply Code (FSC) is equal to:  
(You may enter up to 10 codes separated by commas)

> FSC Lookup

National Item Identification Number (NIIN) is  
equal to:  
(NIIN is the last 9 characters of the National Stock Number  
(NSN))

> The "%6" character  
may be used for  
wildcard queries (i.e.  
12% will return all  
FSCs that begin with  
"12").

Solicitation references this Noun:

Sort the output by

Sort by Solicitation Number

Document Done

# Technical Data Packages

H2398Q0887 - Netscape

Edit View Go Communicator Help

U.S. Army Aviation and Missile Command



Solicitation:	DAAH2398Q0887	Closing Date:	25-NOV-1998
POC:	DIANE IVY 256-955-9182	NSN	None
TDP:	 2840011779015	BLADE, TURBINE ENGIN	FINAL REPORT OF SERIAL NUMBER
Amendments	Attachments/Exhibits		

Upload Attachments/Exhibits



[Return to AcquisitionCenter Contracting Information System](#)

Document Done

# Request for Quotation (RFQ)



File Edit View Go Communicator Help

<input type="checkbox"/>									
Next Page	Respond	<b>9C</b>							

REQUEST FOR QUOTATION <i>(THIS IS NOT AN ORDER)</i>		THIS RFQ <input type="checkbox"/> IS <input checked="" type="checkbox"/> IS NOT A SMALL BUSINESS SET-ASIDE		PAGE 1 OF 6																
1. REQUEST NO.	2. DATE ISSUED	3. REQUISITION/PURCHASE REQUEST NO.		4. CERT. FOR NAT. DEF. UNDER FDSR REG. 2 AND/OR DMS REG. 1																
DAAH2398 Q0887	25-AUG-1998																			
5a. ISSUED BY	DIANE IVY DODAAC: WEBCR		6. DELIVERY BY <i>(Date)</i>		SEE SCHEDULE															
			7. DELIVERY																	
			<input type="checkbox"/> FOR DESTINATION		<input checked="" type="checkbox"/> OTHER <i>(SFF SCHEDULE)</i>															
			9. DESTINATION																	
			a. NAME OF COSTSHAREE DIANE IVY																	
			b. STREET ADDRESS																	
			c. CITY																	
			d. CITY	e. STATE	f. ZIP CODE															
			d. STATE	e. ZIP CODE																
			10. PLEASE FURNISH QUOTATIONS TO THE ISSUING OFFICE IN BLOCK SA ON OR BEFORE CLOSE OF BUSINESS <i>(Date)</i> 25-NOV-1998			IMPORTANT: This is a request for information, and quotations furnished are not offers. If you are unable to quote, please so indicate on this form and return it to the address in Block 5a. This request does not commit the Government to the preparation of the submission of this quotation or to contract for supplies or services. Supplies are of domestic origin unless otherwise indicated by quoter. Any representations and/or certifications to this Request for Quotations must be completed by the quoter.														
			11. SCHEDULE <i>(Indicate applicable Federal, State and local taxes)</i>																	
			<table border="1"> <thead> <tr> <th>ITEM NO. (g)</th> <th>SUPPLIES/SERVICES (h)</th> <th>QUANTITY (c)</th> <th>UNIT (d)</th> <th>UNIT PRICE (e)</th> <th>AMOUNT (f)</th> </tr> </thead> <tbody> <tr> <td></td> <td>SSEE SCHEDULE</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>			ITEM NO. (g)	SUPPLIES/SERVICES (h)	QUANTITY (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)		SSEE SCHEDULE							
ITEM NO. (g)	SUPPLIES/SERVICES (h)	QUANTITY (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)															
	SSEE SCHEDULE																			

Form Ready

022

**Submit Your Response...**

Technological

THE JOURNAL OF CLIMATE

卷之三

104

## ...And Receive Acknowledgment

All Secure  
All Appelles

# FY99 ALT/PLT Goals

Administrative Lead Time - 57  
+ Production Lead Time - 188

Total 245 Days

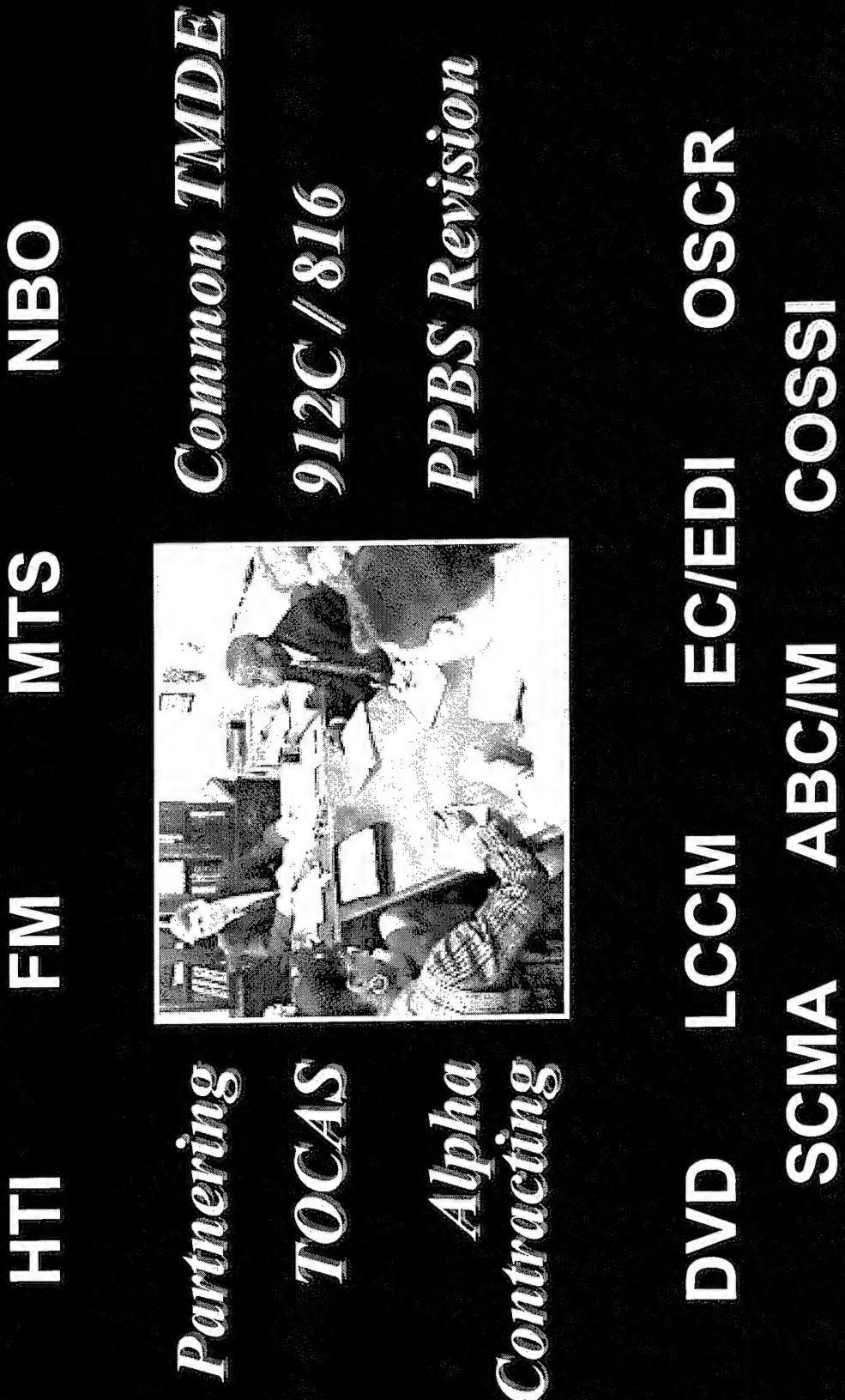
... and looking for 220 Days for FY00

*"There is no question that  
Congress is getting more  
into detail."*

- ★ Over Capacity
- ★ Unnecessary Infrastructure
- ★ Acquisition Reforms
- ★ “Corporate” Best Value Decisions
- ★ Big Changes
  - Wholesale Logistics Modernization
  - Revolution in Financial Affairs
  - Move Out on Initiatives
    - Fleet Management
    - Apache Prime Vendor
  - and Many More...

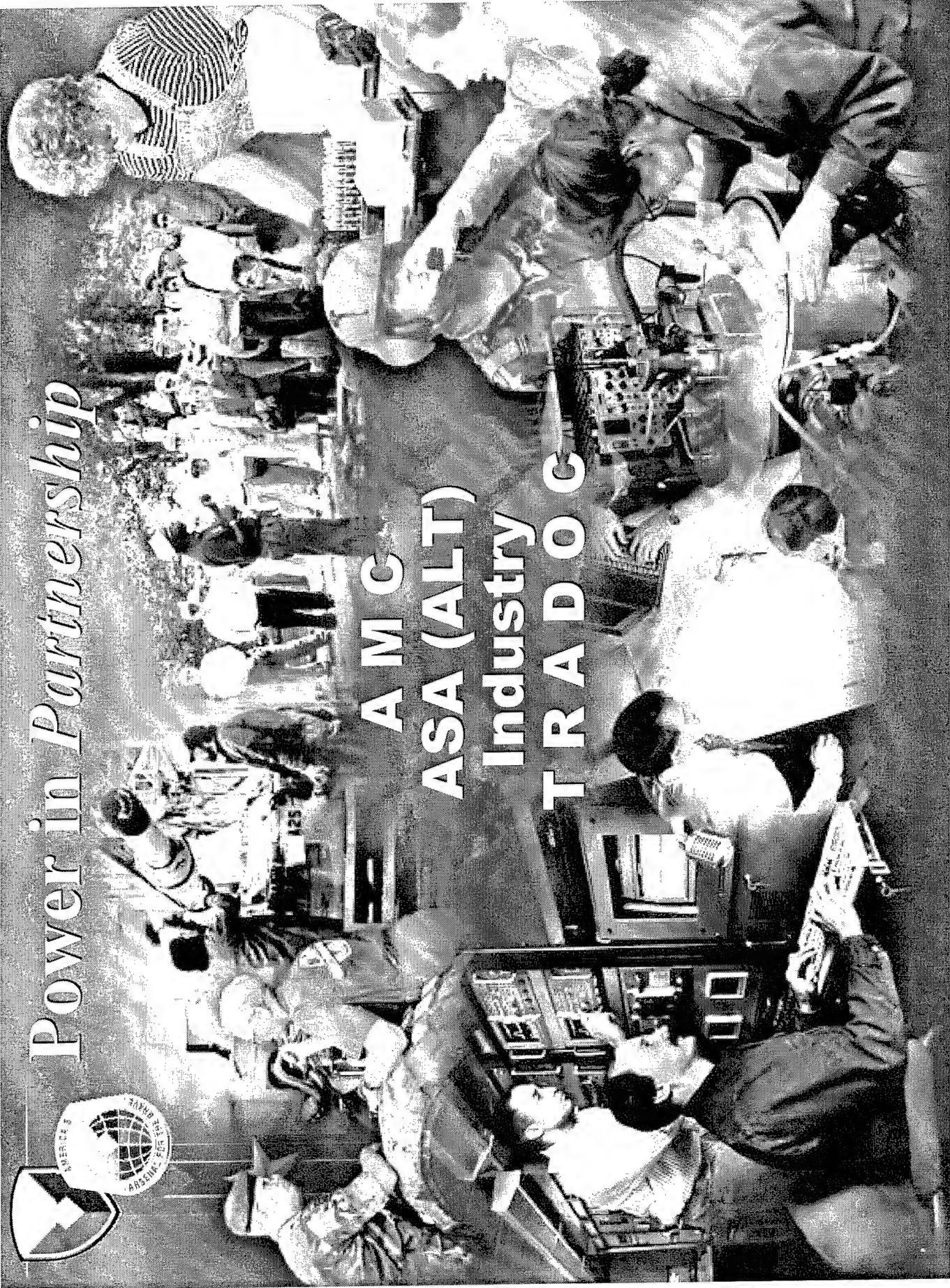
# Total Ownership Cost Reduction

TAV      PVS      CAV  
HTI      FM      MTS



*"We talked about no spares on the shelves, about the OMA dollar, of which there are never enough, and all this materiel out in the field which needed repairing."*

*Power in Partnership*



A M C  
ASA (ALT)  
Industry  
T R A D O C

# Army Prepositioned Stocks (APS) - Geographical Locations -

## APS-2 EUROPE

Central Region:

- Brigades
  - OP Project Stocks
  - Sustainment Stocks
- Italy: Brigade  
OP Project Stocks  
Sustainment Stocks
- Affloat: 2X1 Brigade  
OP Project Stocks  
Sustainment Stocks

## Sustainment Stocks (DPG Based)

- \$6.9B Required
- \$2.1B in Offsets
- \$2.5B On-Hand
- \$2.3B Short

## APS-1 CONUS

CONUS: OP Project Stocks

AFLOAT:  
CONUS ★

## APS-2 to 5

- Readiness Reported
- Qtrly (% Fill/Serviceables)
- Un-manned Units

## APS-4 PACIFIC

Korea: 2X1 Brigade  
OP Project Stocks  
Sustainment Stocks

Affloat: 2X1 Brigade  
OP Project Stocks  
Sustainment Stocks

## APS-5 SW ASIA

Kuwait: 2X1 Brigade  
Sustainment Stocks  
OP Project Stocks

ITT Corp  
Data: 2X1 Brigade  
Sustainment Stocks

★ NORWAY  
★ BENELUX

KOREA ★ ★

★ KUWAIT  
★ QATAR  
★ SW ASIA

## APS-3 AFLLOAT

Affloat: 2X2 Brigade  
OP Project Stocks  
Sustainment Stocks

DynCorp  
Maritime Solutions  
AFCOM

## APS-Afloat

- 8 Transloads through Nov 00
- End State 16 Ships
- 30-36 Months Maint Cycle

**5 Locations;  
\$6.9B Requirement;  
Project & Sustainment Stocks**

# Logistics Power Projection

ON TO THE  
21ST CENTURY



# ARMY STRATEGIC MOBILITY PROGRAM



RAIL  
MARSHALLING  
AREA

RAILROAD  
PASS  
TRACK

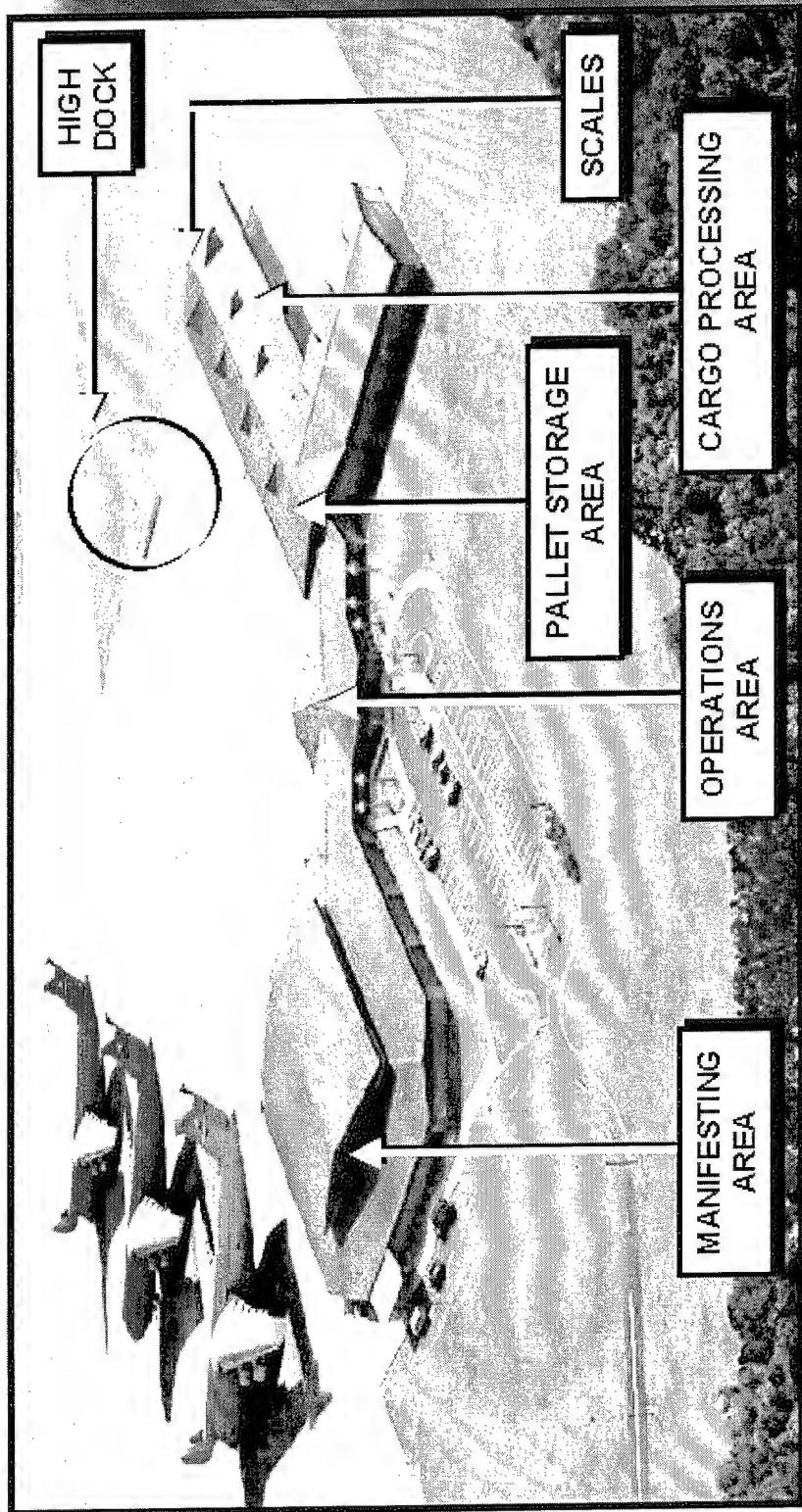


CONTAINER  
HANDLING  
FACILITY

AMMO  
SUPPLY POINT  
EXPANSION

Power Projection

# TRUSCOTT DEPARTURE/ARRIVAL AIRFIELD CONTROL GROUP FACILITY



**TOTAL COST: \$8.4 MILLION**

*“We are soldiers. I was a soldier  
for thirty-five years... But  
there's a place in the Army for  
Management too.”*



**LTC George Sammit, Jr.  
United States Army, Retired**



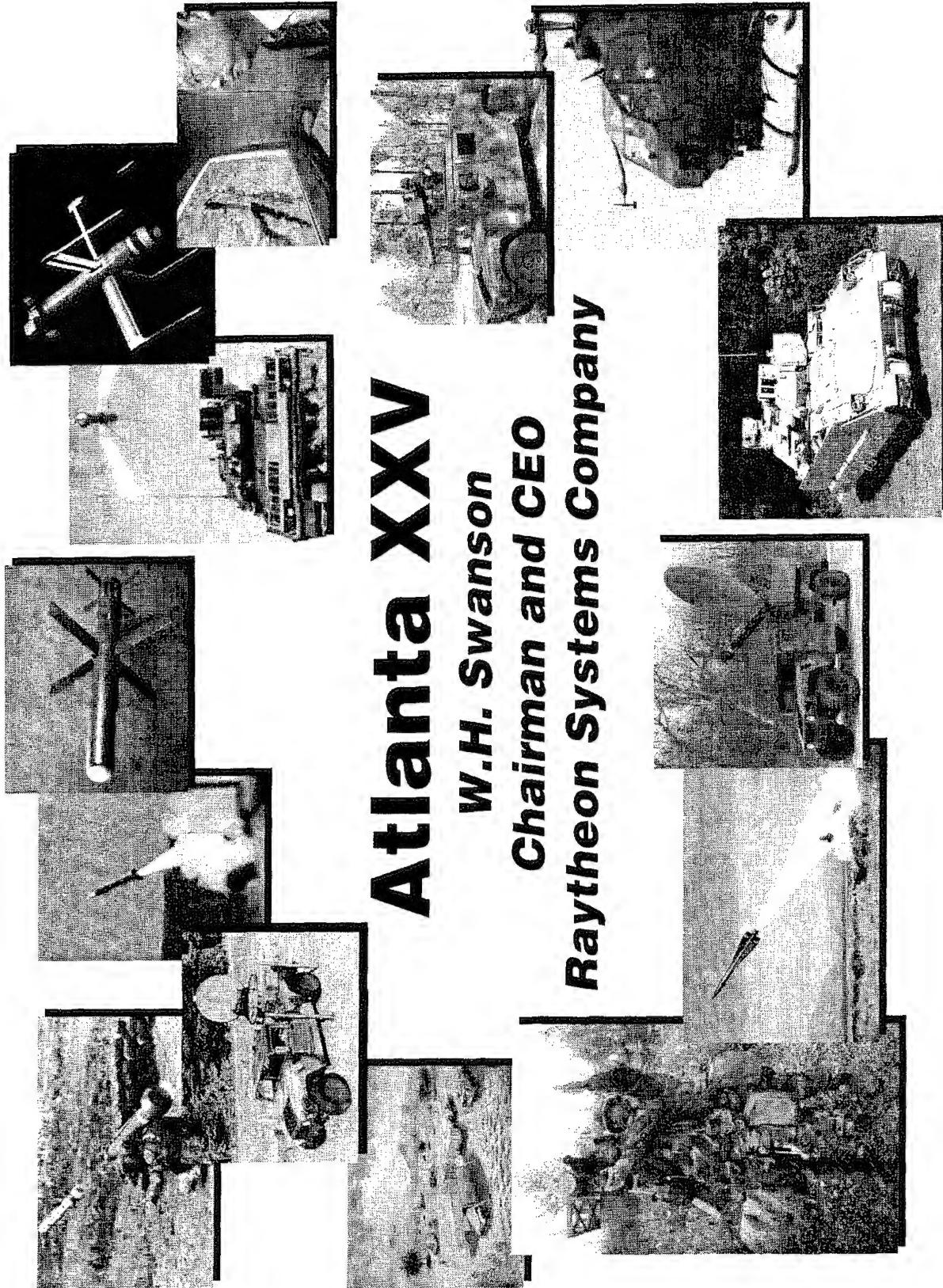


What are you doing for the soldier of 2020?

Army After Next - *Take us there.*

037

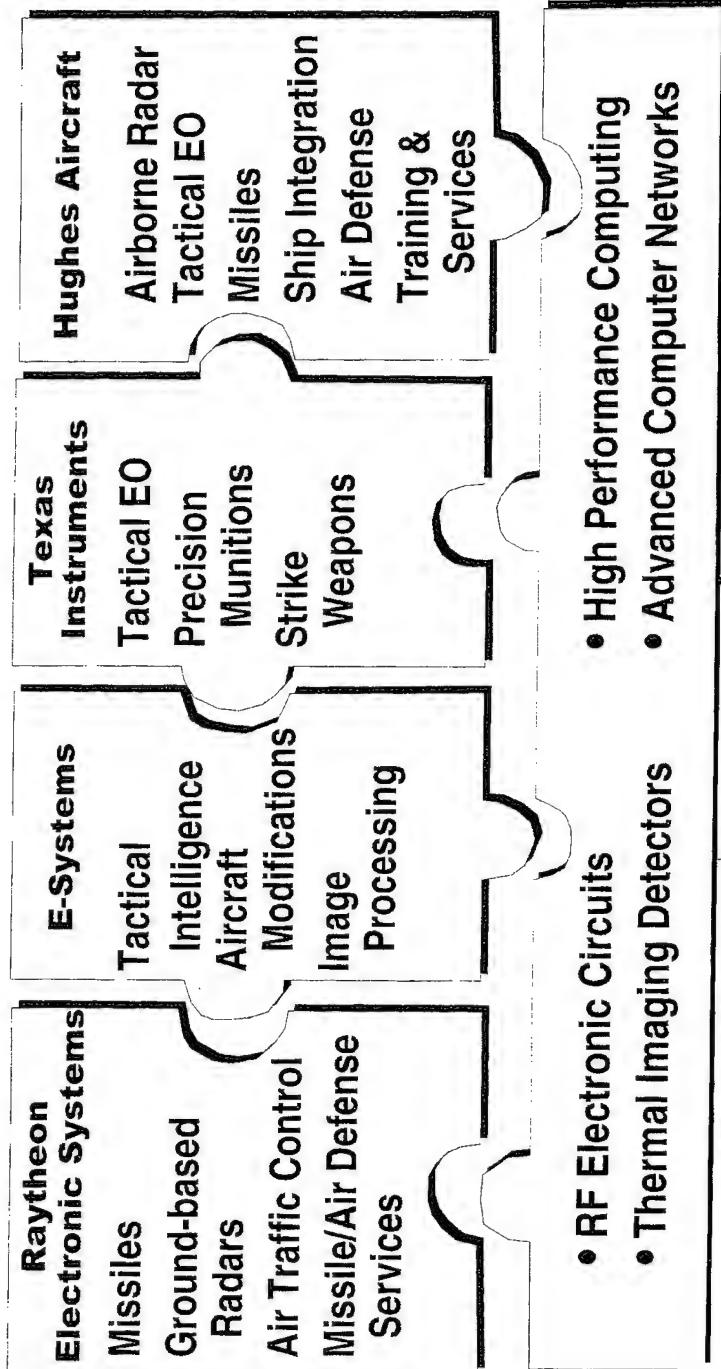




**Atlanta XXXV**  
**W.H. Swanson**  
**Chairman and CEO**  
**Raytheon Systems Company**

## Companies

## Market Leadership



## Technology Leadership

- RF Electronic Circuits
- Thermal Imaging Detectors
- High Performance Computing
- Advanced Computer Networks

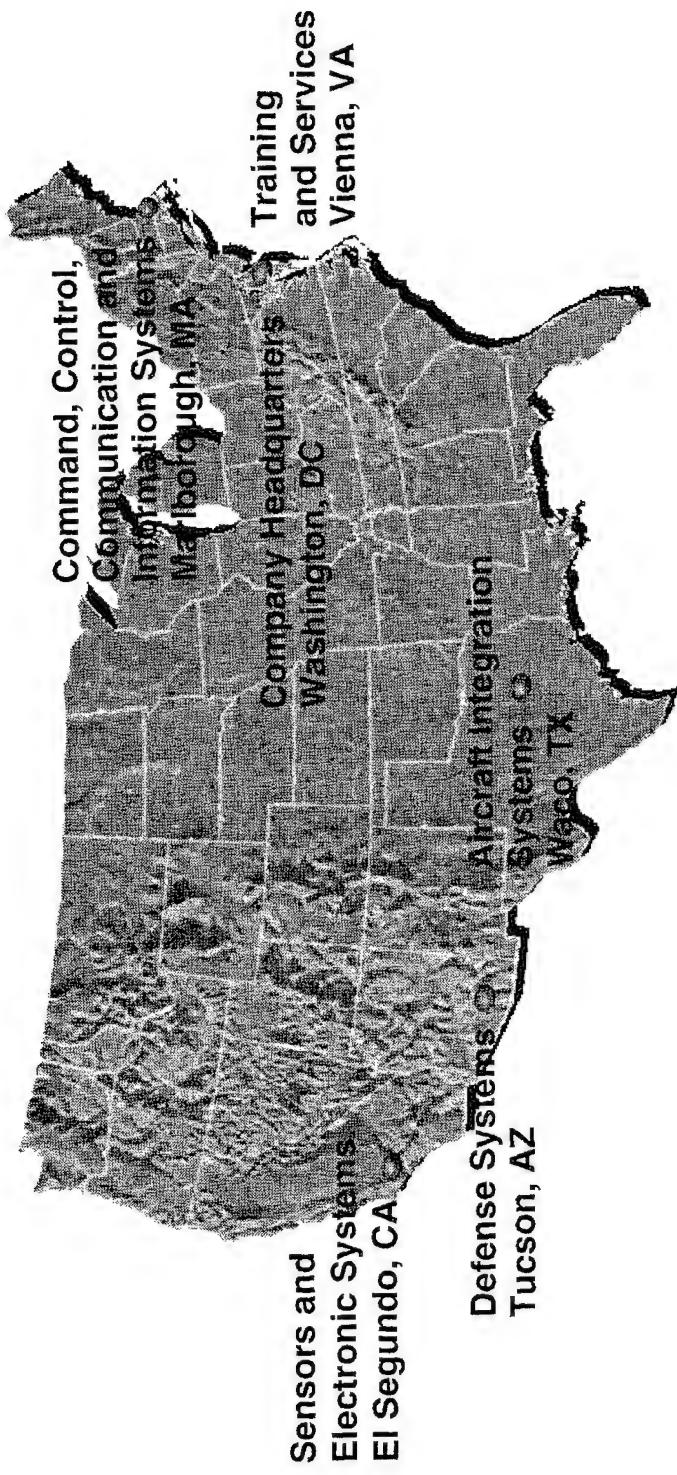
## Raytheon Systems Company

\$15B Sales

80,000 Employees

**Leadership in Defense Electronics**

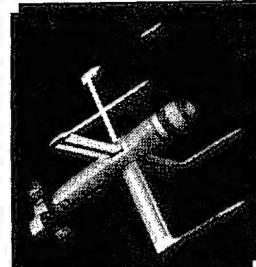
# Raytheon Systems Company Headquarters Locations



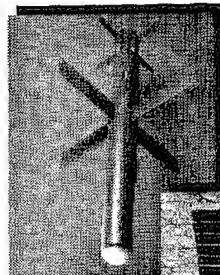
# Defense Systems



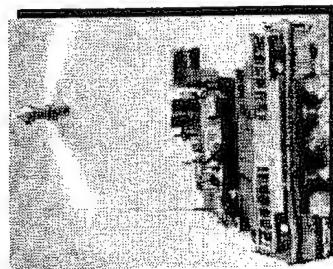
Tomahawk



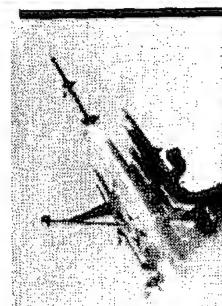
BAT



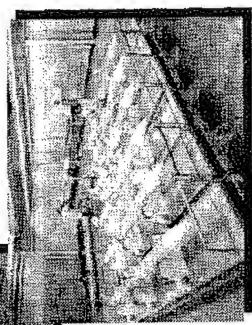
E-FOG-M



TOW



Hawk AMRAAM



AMRAAM



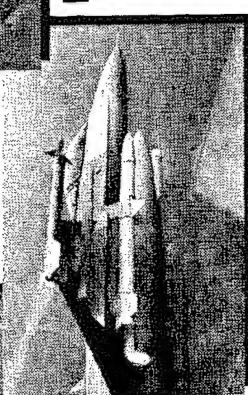
Javelin



GBR



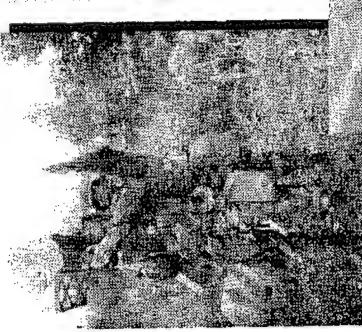
NMD



HARM

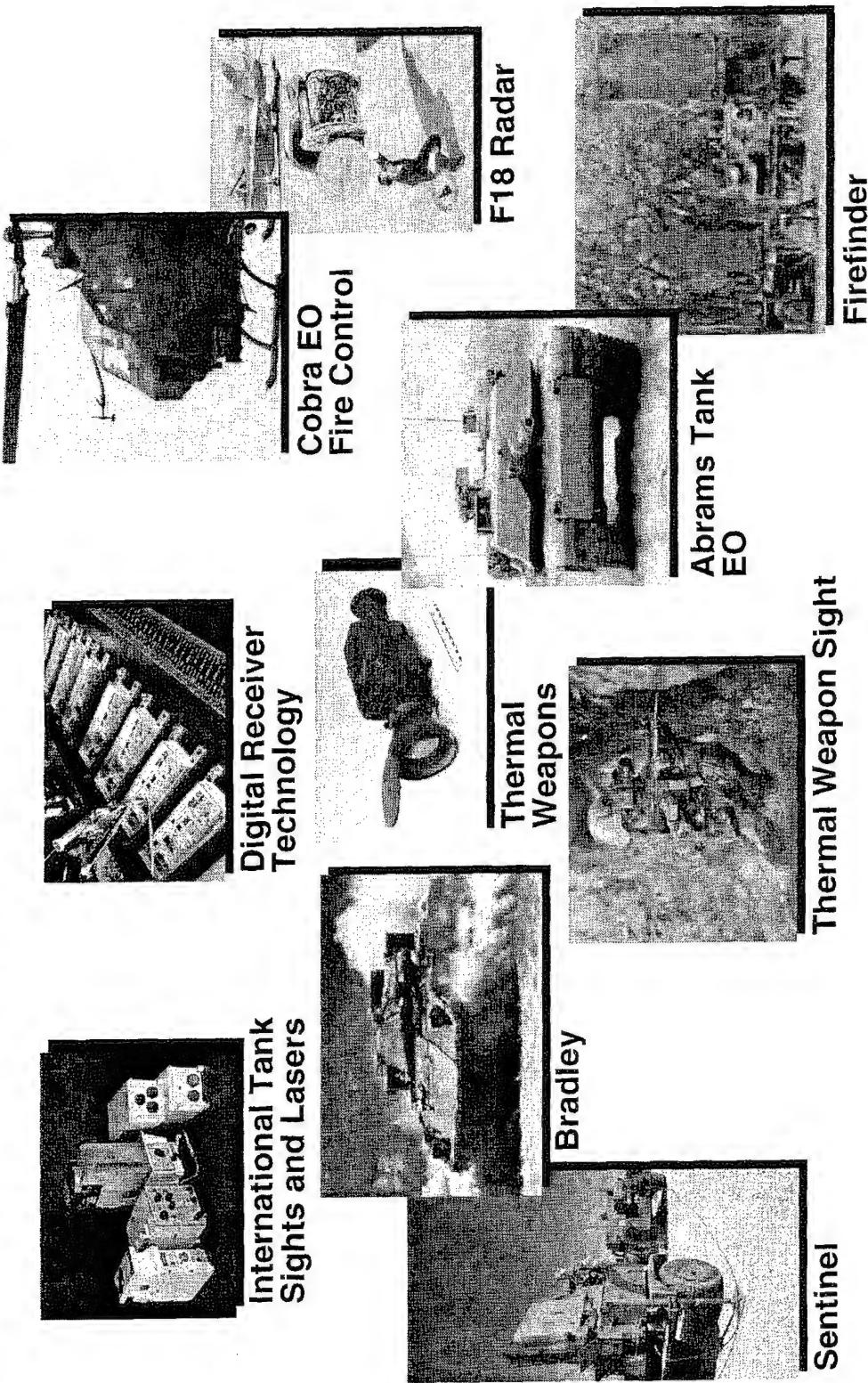


Patriot

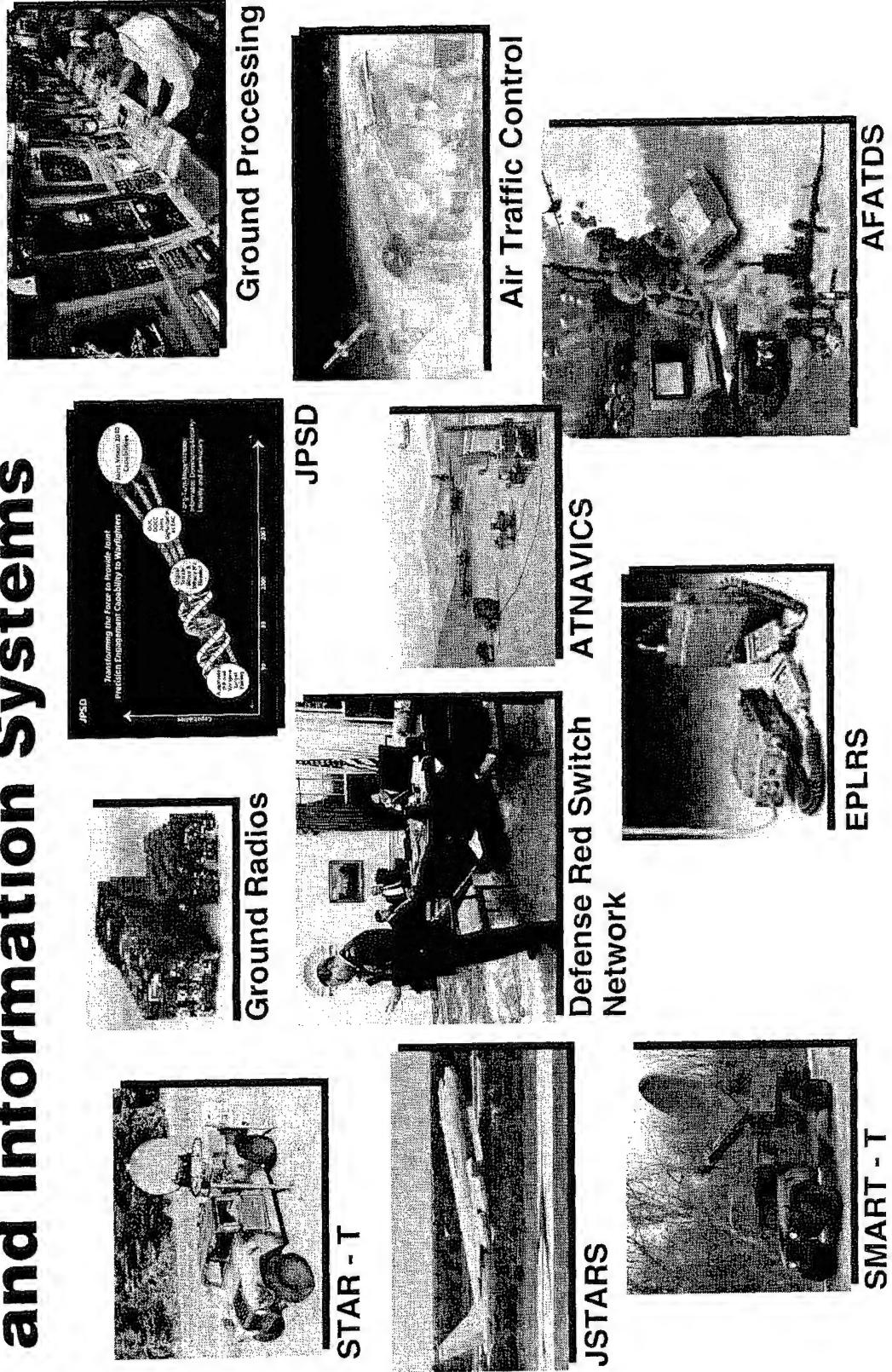


Stinger

# Sensor and Electronic Systems



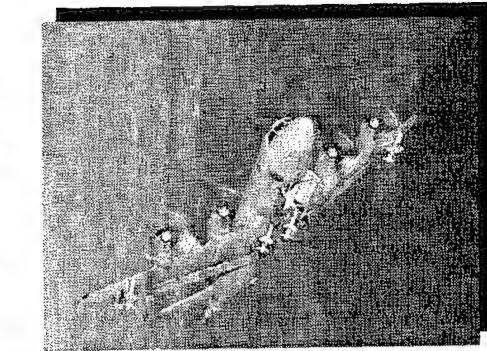
# Command, Control, Communication and Information Systems



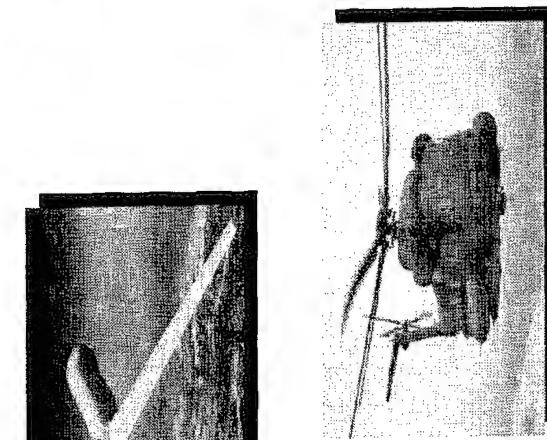
# Aircraft Integration Systems



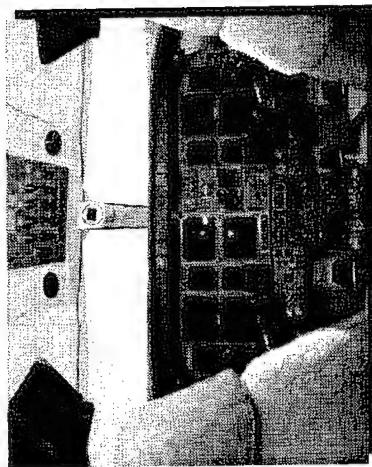
UAV



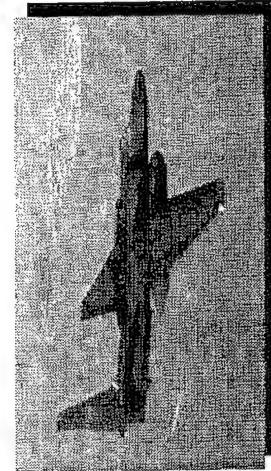
Maritime Patrol  
Aircraft



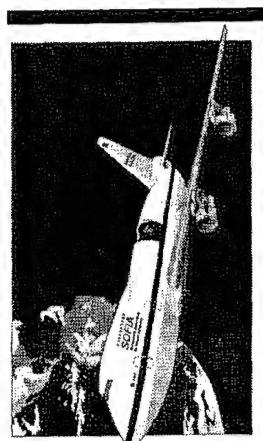
Special Operations  
Support



Aircraft Modification



Airborne Surveillance

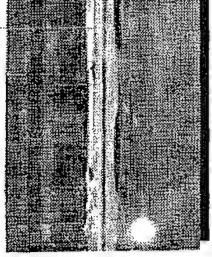


Stratospheric  
Observatory

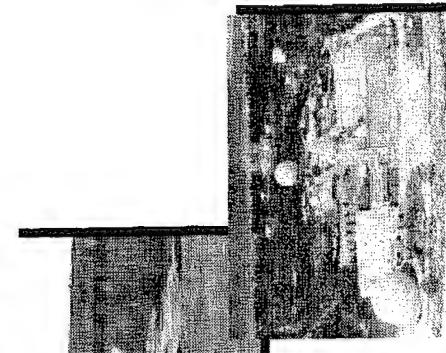
# Training and Services



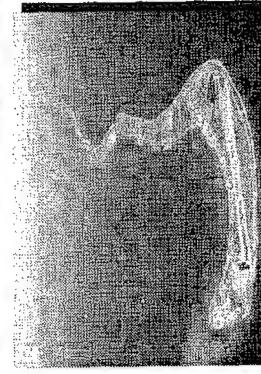
Depot  
Services



Facility  
Maintenance



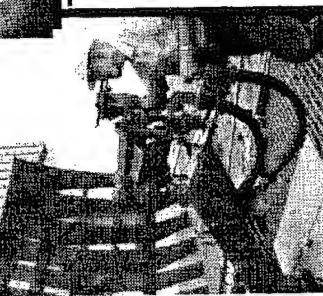
Range Operations



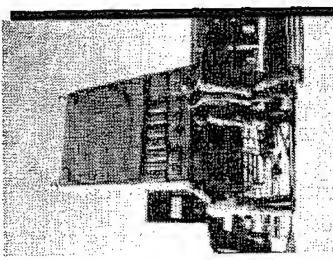
Technical Support



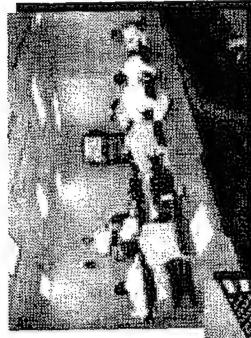
ATC Support



Field Engineering



Logistics  
Engineering

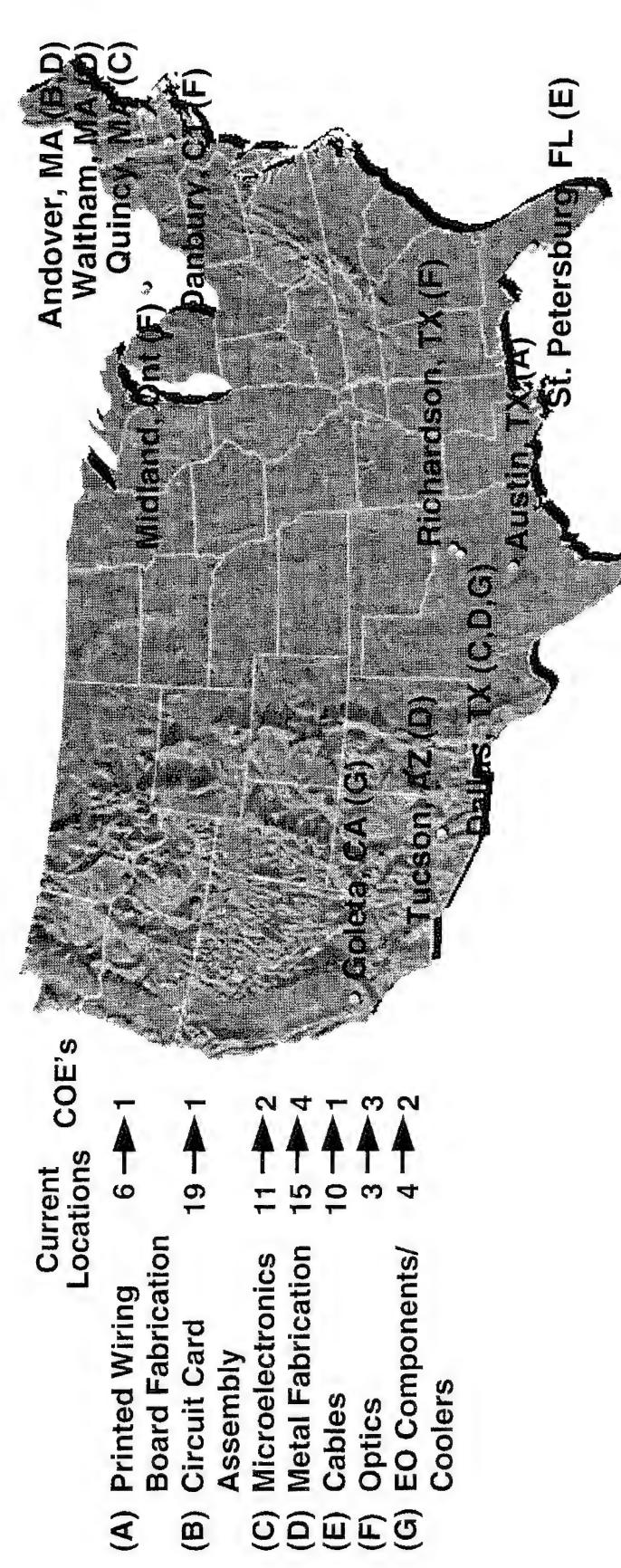


Training  
Support



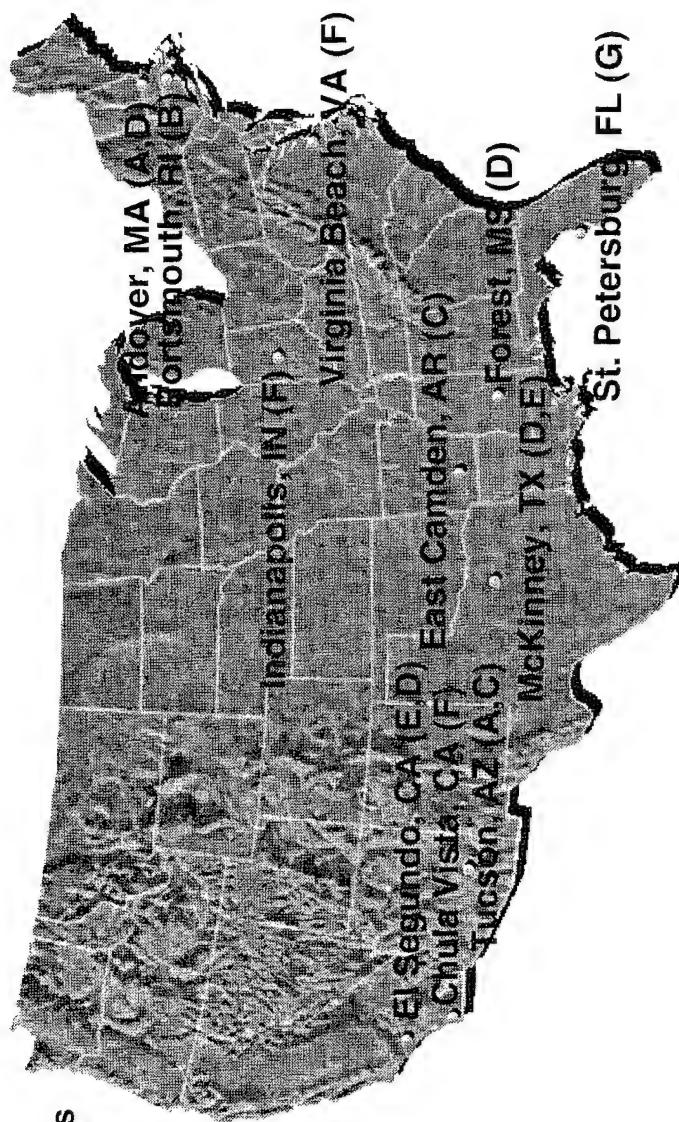
Training Systems

# Centers of Excellence

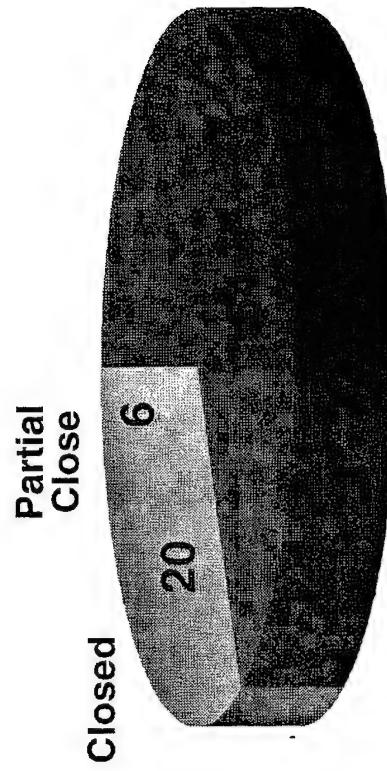


# Centers of Manufacturing

	Current COE's Locations	
(A) Missiles/ Strike Weapons	5 → 2	
(B) Torpedoes, Ship Combat Systems	4 → 1	
Sonar, Mine Warfare, and Ocean Surv. Systems		
(C) All Up Round	5 → 2	
(D) Radar	6 → 4	
(E) Electro-Optical	4 → 2	
(F) Depots	7 → 3	
(G) Radio and Terminal	5 → 1	



# Facilities Restructuring



Closed

Partial  
Close

Closed



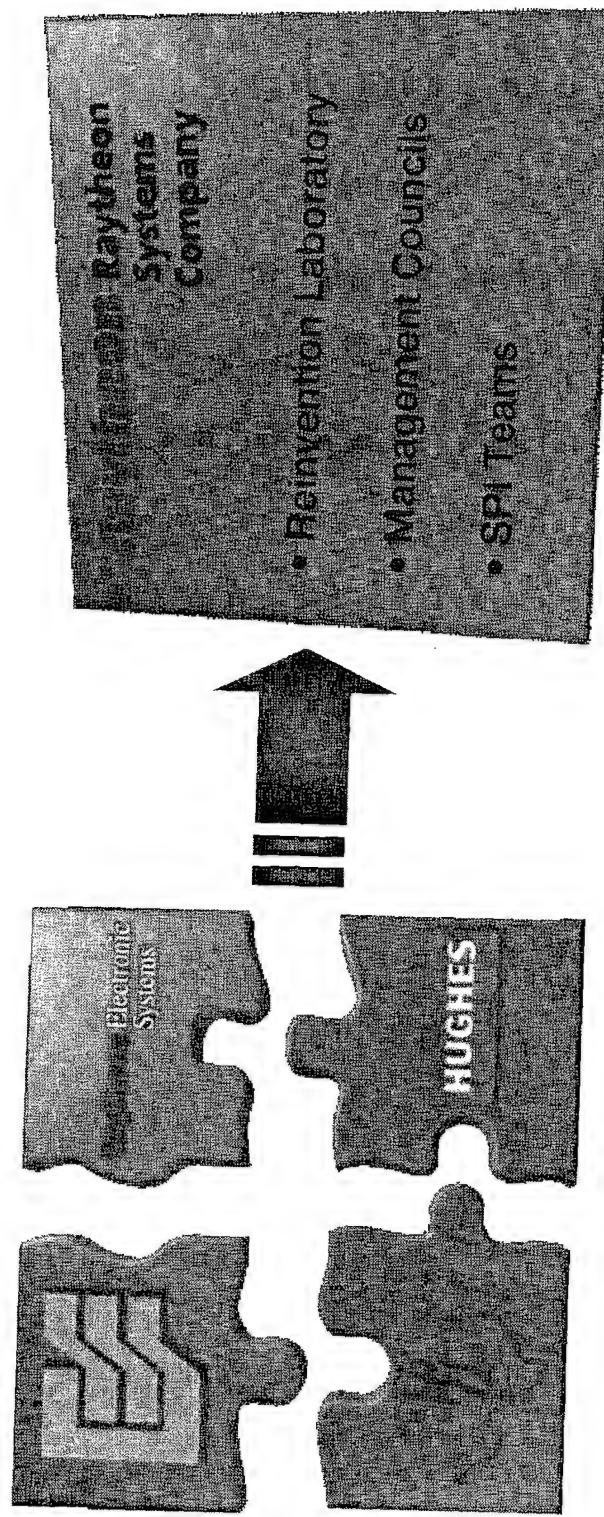
## Major Facilities

- 80 Major Facilities to 60
- Partial Closure of An additional Six Major Facilities

## Facilities Square Footage

- 42M ft<sup>2</sup> to 34M ft<sup>2</sup>
- 20% Reduction

# Acquisition Reform



# 32 Approved SPI Projects

## *Assembly and Inspection*

- 1 Deletion of Solderability Testing
- 2 Delete MIL-STD-2000, Delete Cosmetic Rework
- 3 Delete MIL-STD-2000, Reduce Solder Inspection
- 4 Delete ECP Requirements for Class 2 Changes
- 5 Contractual Requirements Acceptance Test Reduction
- 6 Part is a Part Contractual Requirements
- 7 Contract Document Disclosure
- 8 Reduce Inspection
- 9 Eliminate DoD-STD-100 Specification Control Drawings
- 10 Eliminate Annual Certification of Test Stations
- 11 Eliminate Customer's External Audits
- 12 Eliminate Contract Need for On-Sheet Parts List
- 13 Eliminate MIL-STD-15206 MRB Presentation

## *Government Property Summary*

- 19 Inventory & Control of Government Property
- 20 MIL-STD-45662A Calibration Requirements

## *Proposal Summary*

- 21 Certification of Cost and Pricing
- 22 Spares Bidding
- 23 Termination Proposals
- 24 Forward Pricing Rate Agreements
- 25 Subcontractor Audits

## *Business System Summary*

- 14 Reduce Cost Reporting on Contracts
- 15 Combine Spares Procurements
- 16 Final Overhead Negotiations
- 17 Contract Terminations
- 18 Combined Requisitions

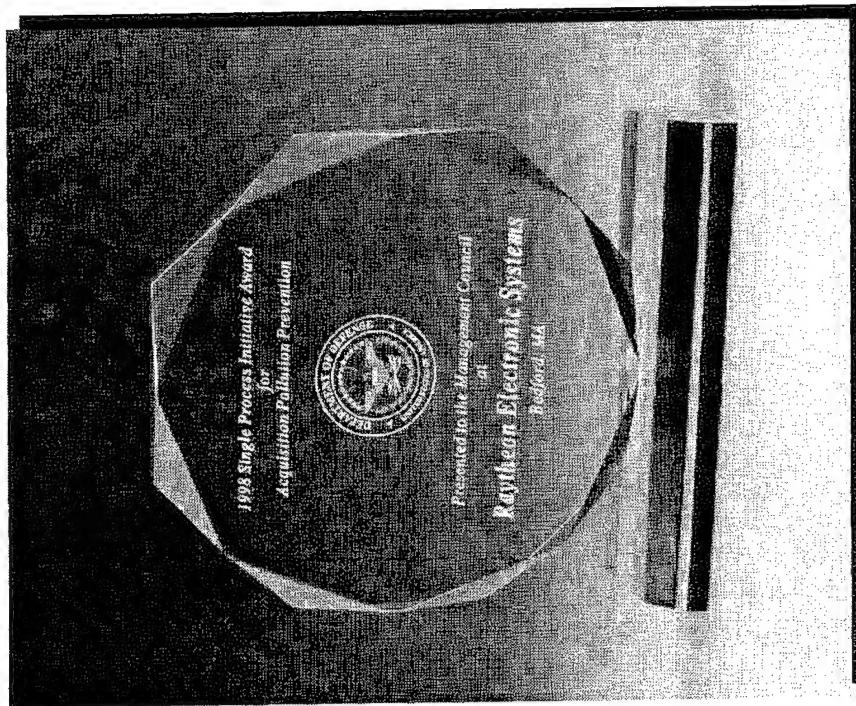
## *Procurement*

- 26 Subcontract Terminations, FAR Change
- 27 Small Business Plans, FAR Changes
- 28 Annual Certification
- 29 Eliminate Rescreening Requirements
- 30 Remove Packaging Requirements

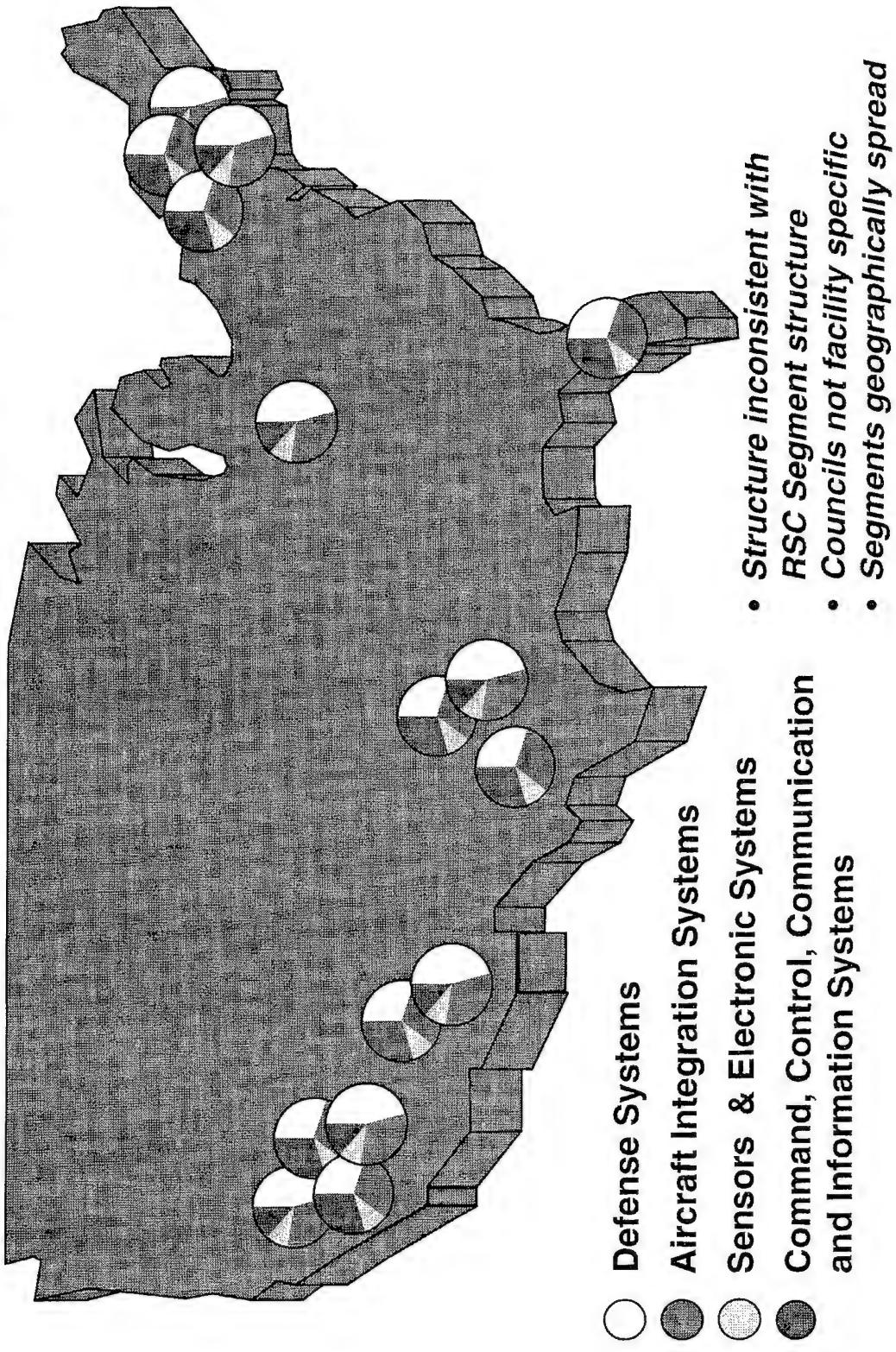
## *Concurrent Sales Summary*

- 31 Eliminate Contractual Mandatory Government
- 32 ISO 9001
- 33 Inspection Requirements

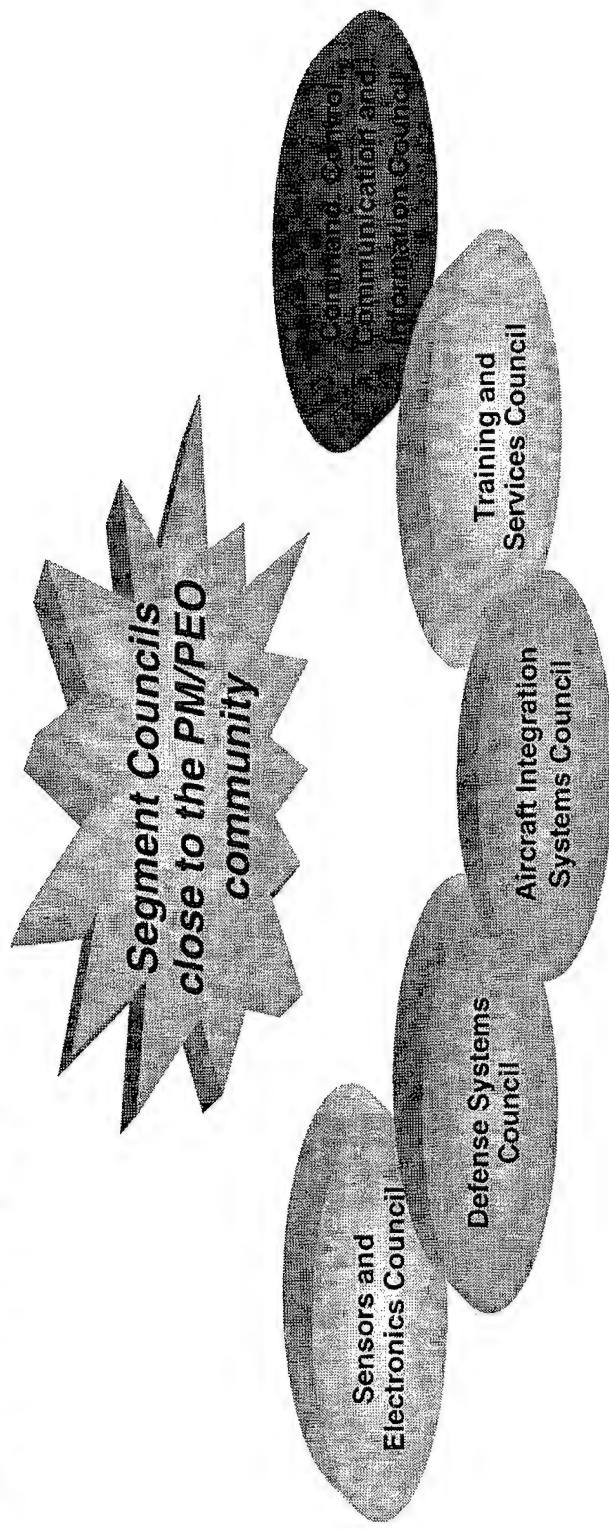
# DCMC SPI Recognition Award



# Previous Management Councils

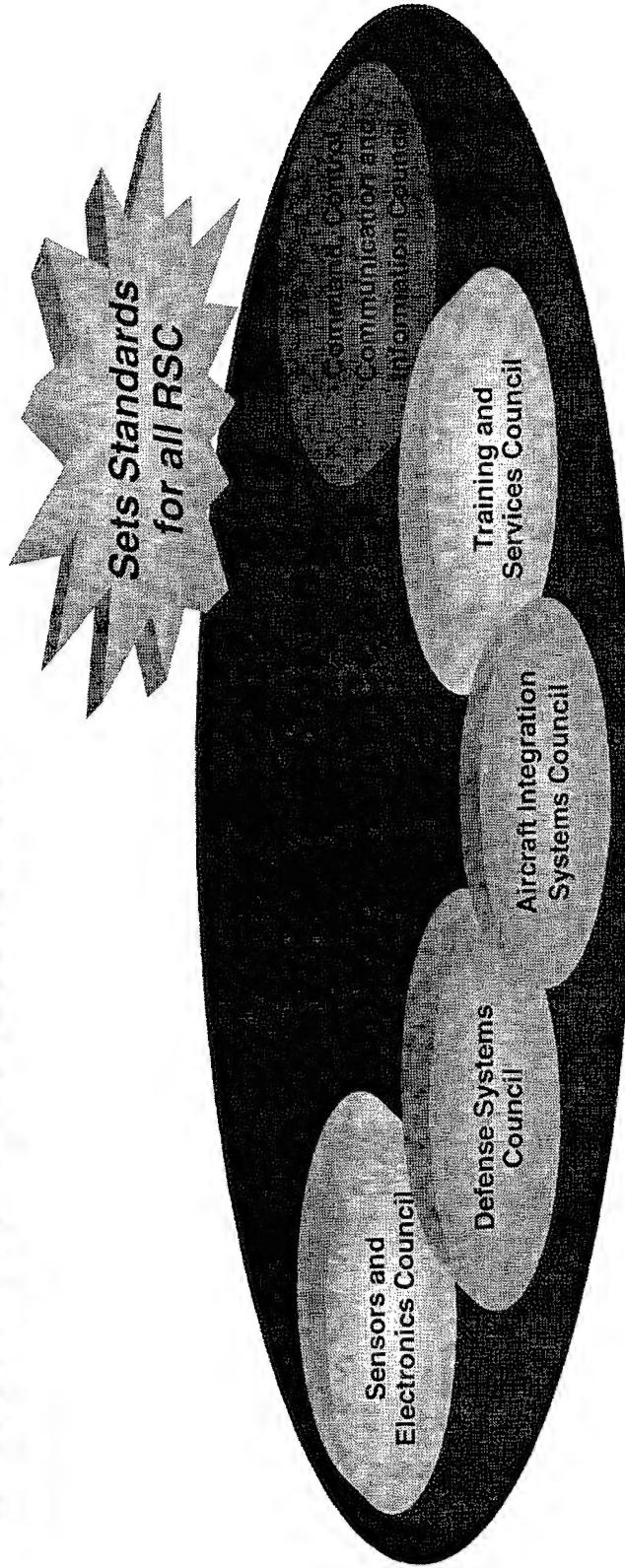


# RSC Management Council Structure



**Full Commitment to Acquisition Reform**

# Integrated RSC Management Council Structure



*Commitment to Acquisition Reform*

# **Acquisition Reform Initiatives**

- PROCAS
- EVMS
- DoD Past Performance
- RSC Transition and details
- Integrated Digital Environment (IDE)
- Environmental Initiatives
- Streamlined Acquisition
- Other topics of interest to the Councils

## **Contractor On The Battlefield**



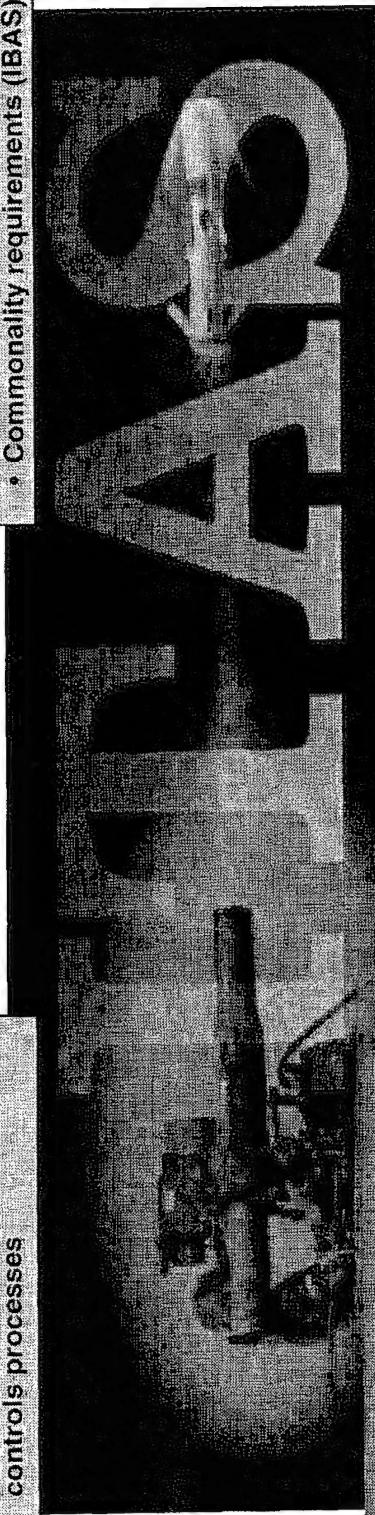
# ITAS Acquisition Reform Model

## CONTRACT REFORM

- Performance specifications for field replaceable items
- RSC controls detailed design data
- Fly-to-Buy
- Key metrics monitored, contractor controls processes

## HARDWARE REFORM

- Full Built-in-Test capability
- Plastic encapsulated microcircuits
- Industrial parts
- Controlled use of COTS items
  - RSC Part Selection Process
- Commonality requirements (IBAS)



## PROGRAMMATIC

- Formal Cost Reduction Plan
- Multiyear contracts for:
  - Production
  - Engineering Services
  - Prime Vendor Support
  - Alpha Acquisition

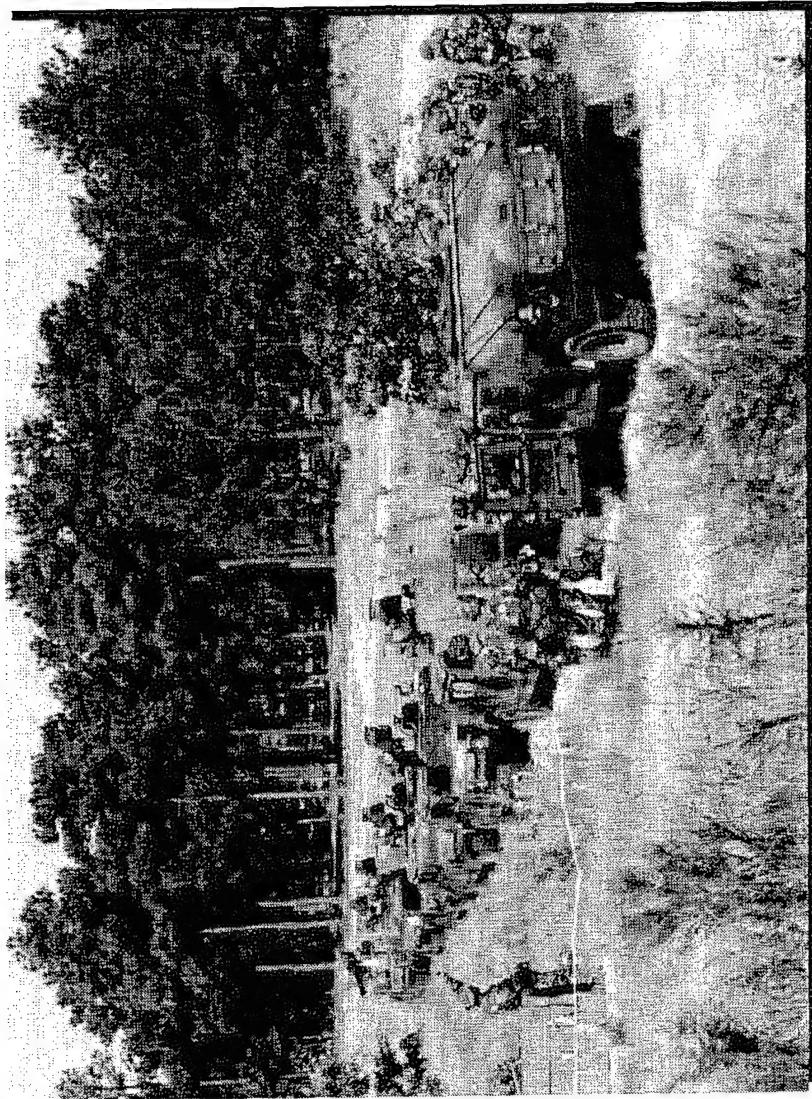
## LIFE CYCLE SUPPORT

- Contractor Logistics Support at major fielding sites
- Common factory/depot facility and equipment
- Guaranteed system availability

## ELECTRONIC COMMERCE

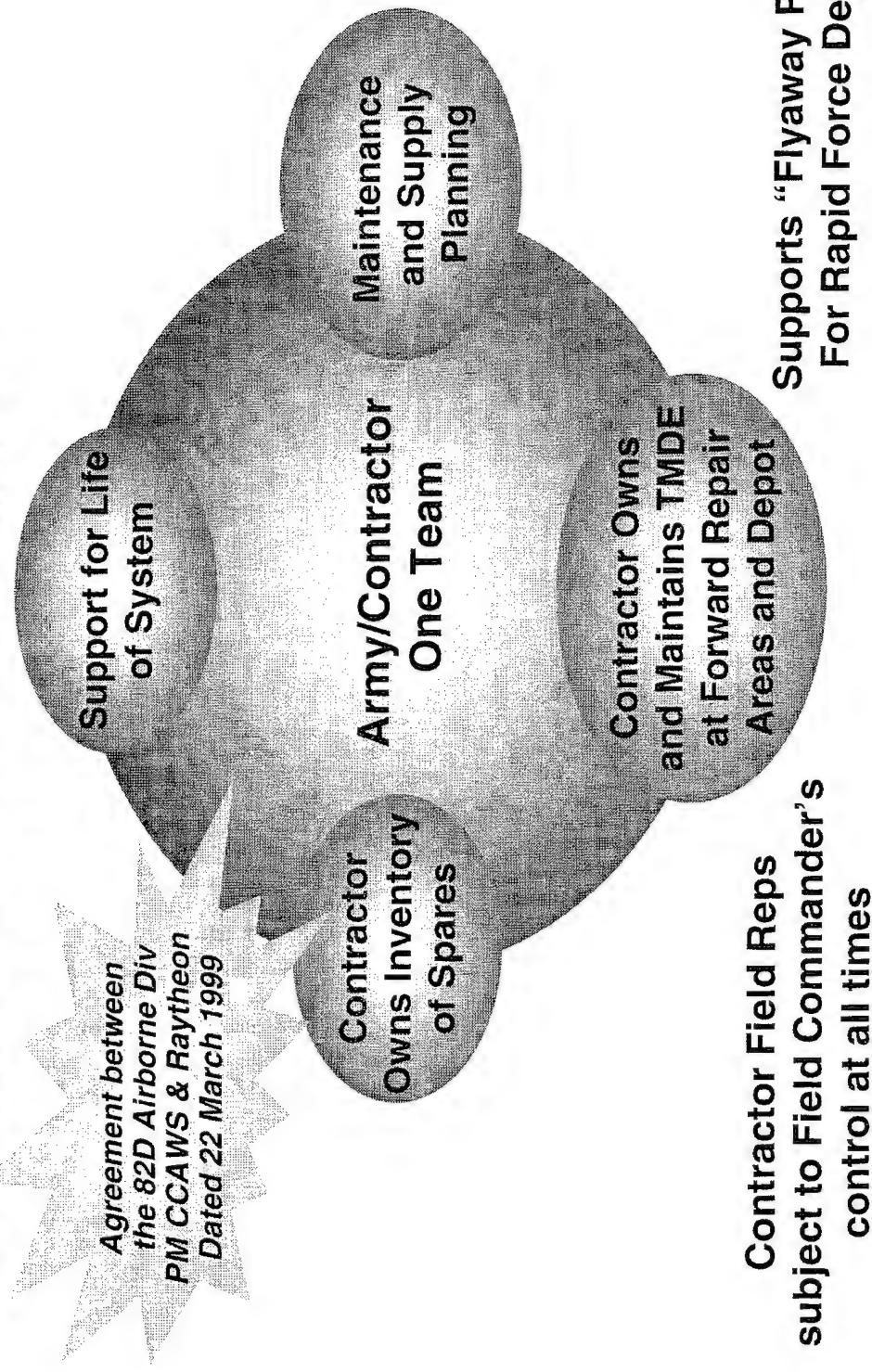
- On-line submission of CDRL's and Technical data
- Logistics data integrated with Army Log Systems

# TOW Improved Target Acquisition System (ITAS)



*The 82D Airborne's 1-17 CAVALRY with  
their new TOW ITAS anti-armor systems.*

# **Contractor Integrated with the Unit to Support the Warfighter**



# ITAS CLS for the 82D A/B Div

9 Infantry Battalions  
1 Cavalry Squadron

Forward Support Battalion (FSB)

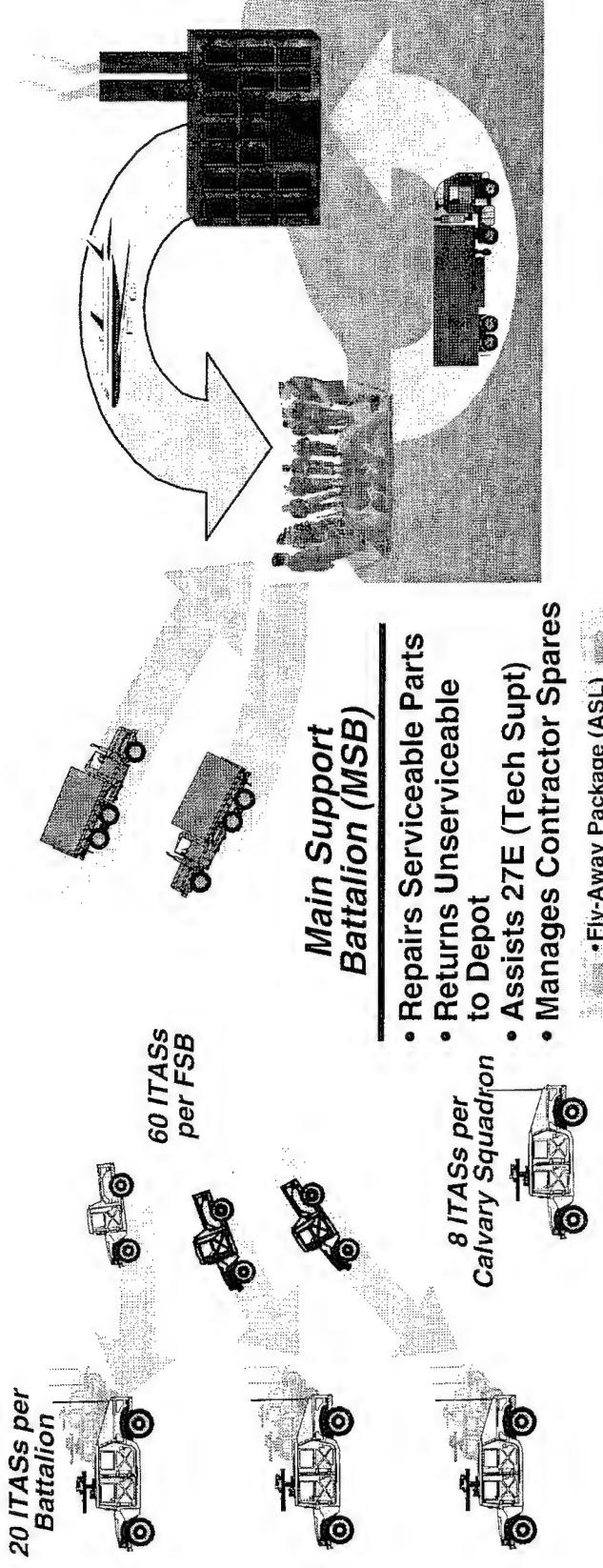
- 11H - ITAS Operator

Contractor Depot – Raytheon

- Repairs Unserviceable Parts
- Replenishes Spares
- Executes Modernization Program

20 ITASS per  
Battalion

60 ITASS  
per FSB



## Main Support Battalion (MSB)

- Repairs Serviceable Parts
- Returns Unserviceable to Depot
- Assists 27E (Tech Supt)
- Manages Contractor Spares

8 ITASS per  
Cavalry Squadron

- Fly-Away Package (ASL)

# For ITAs, the Army's Care-Abouts Have Been Addressed with the Agreement Between the PM, the 82D and Raytheon

## *U.S. Army Care-Abouts*

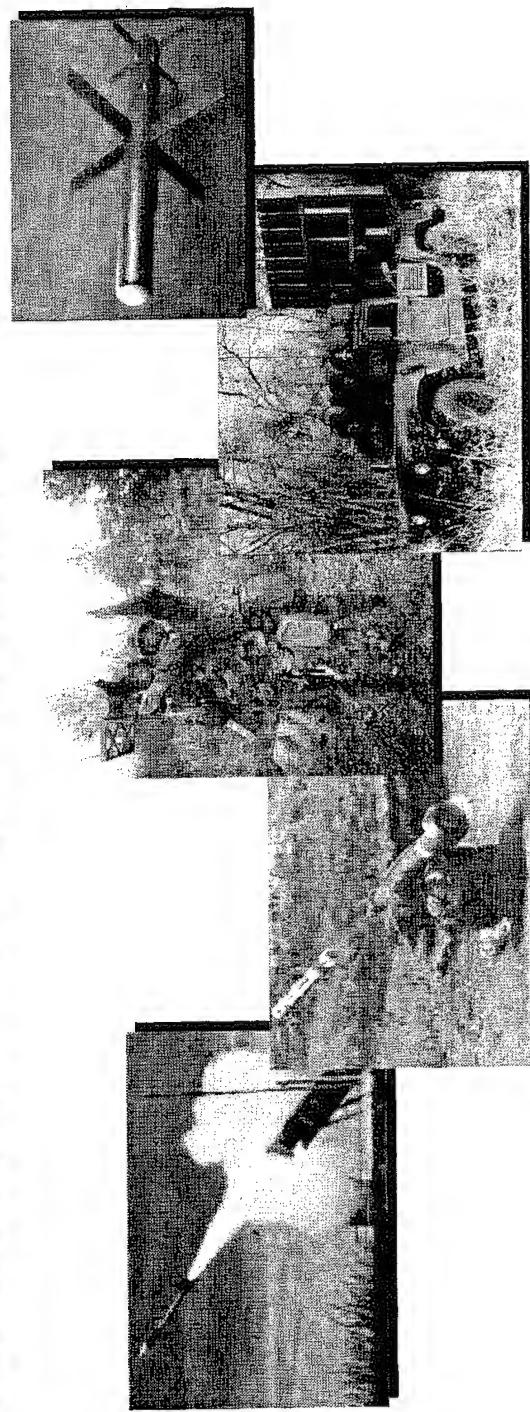
- War Planning/Force Multiplier
- Seamless Transition to War
- Responsiveness of Support
- Support to Contractors
- Deployment Requirements
- Control in Battle
- Technical Support

## *Contractor as Team Member*

- Member of War Planning Council
- Total Integration of RSC into Support Plan
- RSC Located with Units/Incentive Contract
- Provided by Unit through the agreement
- Health/Physical/Legal Requirements met
- RSC Rep under Commander's Authority, SOFAs & UCMJ
- Skilled Technicians drawn from both Industry and former Military Pools

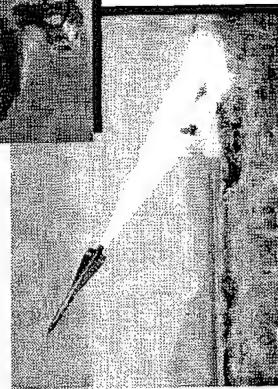
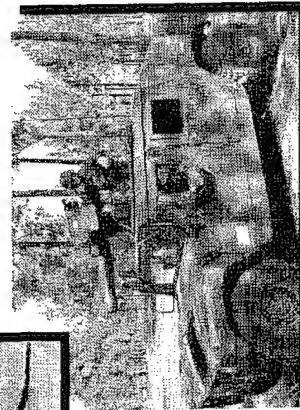
# Acquisition Reform Issues

- SPI process
- Commercialization
- Unique business requirements
- Contract terms and conditions



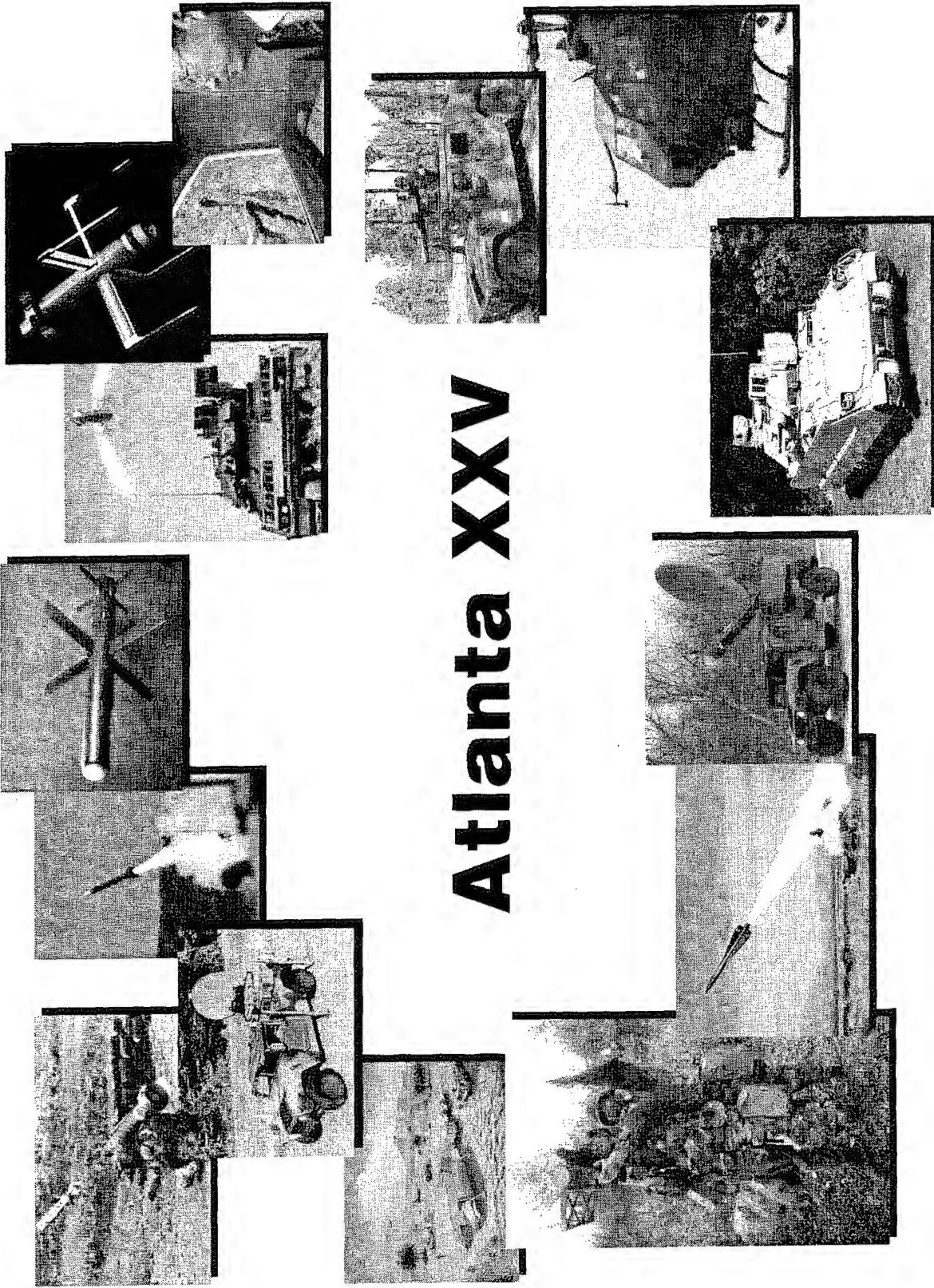
# Acquisition Reform Success

- New opportunities
- Partnering between industry and the Army
- Streamlining
- Teamwork



***Commitment to Reform***

# Atlanta XXXV



Atlanta XXXV  
History in the Making

GEN(R) Louis Wagner

## **History In The Making**

**Forum For Former Decision Makers To Review  
Previous Issues And Show How These Issues  
Provide A Framework To Continue The Evolution  
Of Government/Industry Relationships**

## Materiel Acquisition Issues - 1976 To 1989

- Small Budget to Large Budget to Decreasing Budget
- Critical Modernization Requirements
- Huge "Bow Wave"
- Hollow Army - Equipment Readiness Problems
- Congressional Criticism
- Distrust of Government Testing
- Depot Initiatives Stymied
- Poor Quality of New Equipment
- Packard Commission
- "ILL WIND" - Lawyers Reigned Supreme

"It's Deja Vu All Over Again"

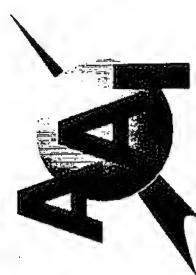
## **Acquisition Initiatives - 1976 To 1998**

- PMs Had Extensive Operational Experience
- Increased User Input - TRADOC System Managers
- Increased “Green Suit” Input To Soldier Systems
- Increased Contractor Knowledge Of User - NTC
- Total Program Support By Prime Contractor - MSE
- Increased Contractor Support - Particularly Aviation
- Depot Performance Enhancement
- Objective Supply System (OSS) - Fort Hood
- Common Items And Supply Depots To DLA
- In Transit/Total Asset Visibility - But Too Slow

## **AN OUTSIDER'S VIEW OF AMC TODAY**

- Not Enough "Green Suiters" To Influence The Action
- Management Of Suppliers Is Key Focus
- Increased Reliance On Contractors In All Areas
- Decreased Emphasis On Acquisition Expertise
- Many Good Initiatives
  - Velocity Supply Management
  - State-Of-The-Art In-Transit/Total Asset Visibility
  - Paperless Contracting
  - Streamlined RFPs (?)

**Too Few People For Too Many Jobs?**



**AAI Corporation**

A subsidiary of United Industrial Corporation

# HISTORY IN THE MAKING

**An Industry viewpoint**

**G. J. Kersels**

Vice President, General Manager  
Defense Systems

20 April 99



**AAI Corporation**  
A subsidiary of United Industrial Corporation

# PERFORMANCE EXPECTATIONS

Performance  
Driven

1960s

Build to Spec

1970s &  
1980s

1990s &  
Beyond

Process  
Focused



**AAI Corporation**

A subsidiary of United Industrial Corporation

# CONTRACT EXPECTATIONS

Best Value

1990s &  
Beyond

Fixed Price

1970s &  
1980s

Cost Plus

1960s



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# GOVT/INDUSTRY RELATIONSHIPS

Partnerships

1990s &  
Beyond

Adversarial

1970s &  
1980s

Collaborative

1960s



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# CURRENT STATE

**ARMY**

**Warfighters**

Combat Experts

**Support**

Logistics

Maintenance

**INDUSTRY**

**Primes**

Experts at weapon  
platforms

**Support Specialist  
Companies**

Training experts

Contractor Life  
Cycle Support



# FUTURE INDUSTRY APPROACH

Option A	Option B	
Prime	Prime	Support Specialist
Platform	Platform	Training
Training		Contractor Life Cycle Support
Contractor Life Cycle Support		<i>Competition Innovation Lower Cost</i>
		Vertical Integration

4/20/99 6



# ATLANTA XXXV

## Safeguarding The Exchange Of Information In An Open Environment

Mr. David Borland

Vice Director of Information Systems for Command,  
Control, Communications and Computer

20 April 1999



## Purpose

- Provide an overview of how Government and Industry will safeguard the exchange of classified/proprietary information in their business dealings.

# Agenda

- Background
- Terms and Definition
- Bottom Line Up Front
- Context
- Classes of Attacks Against Network Systems
- Business Rules for Access Control (Current & Future)
- Business Scenarios (Current and Future)
  - Solicitation and Awards
  - Electronic Catalogs (E-Catalogs) and Electronic Mall (E-Mall)
  - Technical Drawing Process
- Public Key Infrastructure
- DoD Medium Assurance Public Key Infrastructure
- Target DoD PKI Architecture for Interoperability
- Target User Registration
- Challenges and Opportunities
- RECAP

# Background

## Paperless Contracting:

- 21 May 97: Management Reform Memorandum (MRM) #2, "Moving to a Paper-free Contracting Process by January 1, 2000"
- 29 Jul 97: MRM #2 Addendum (included the Logistics function)
- 8 Dec 97: MRM #2 Reemphasis (provides focus, details monthly briefs)

## Public Key Infrastructure (PKI):

- 8 Aug 97: Management Reform Memorandum (MRM) #16, "Identifying Requirements for the Design, Development and Implementation of a DoD Public Key Infrastructure.
- 19 Aug 97: ASD(C3I) Memorandum, "Public Key Infrastructure (PKI) Services for the Defense Information Infrastructure (DII)"
- April 99: Draft ASD(C3I) Policy Memorandum, Department of Defense (DoD) Public Key Infrastructure (PKI)

## Web Based Security:

- 24 Sep 98: DEPSECDEF Memorandum, "Information Vulnerability and the World Wide Web"
- 20 Oct 98: Principal Deputy USD(A&T) Memorandum, "Information Vulnerability and the World Wide Web"
- 30 Nov 98: Army DISC4/CIO Memorandum, "Guidance for Management of Publicly Accessible U.S. Army Web-sites

# Definitions and Terms

**Army Electronic Commerce (EC):** Electronic techniques for accomplishing business transactions, including electronic mail or messaging, World Wide Web technology, electronic bulletin boards, purchase cards, electronic funds transfers, and electronic data interchange.

**Army Single Face to Industry (ASFI):** A web based electronic contracting system that provides direct interface with the Army's procurements systems and provides a centralized entrance point for industry

**Public Key Infrastructure (PKI):** The people, policy, procedures, hardware and software components, and facilities necessary to enable public key cryptographic functions, so that applications can provide the desired electronic commerce and security enhancements.

**Digital Signatures:** A process using public key cryptography whereby a user can electronically sign an electronic transaction. The digital signature can be validated as genuine and the signed transaction cannot be altered without detection.

**Identity Certificates:** An electronic file with a specific validity period that certifies that the named user is who he or she claims to be, and binds the user's public key with the named user. The certificate cannot be altered without detection.

**Electronic Mail (E-Mail):** A virtual shopping mall the provides DoD Customers the ability to order items electronically.

**Army Mart (A-MART):** Army World-Wide-Web front end to the DoD E-Mall

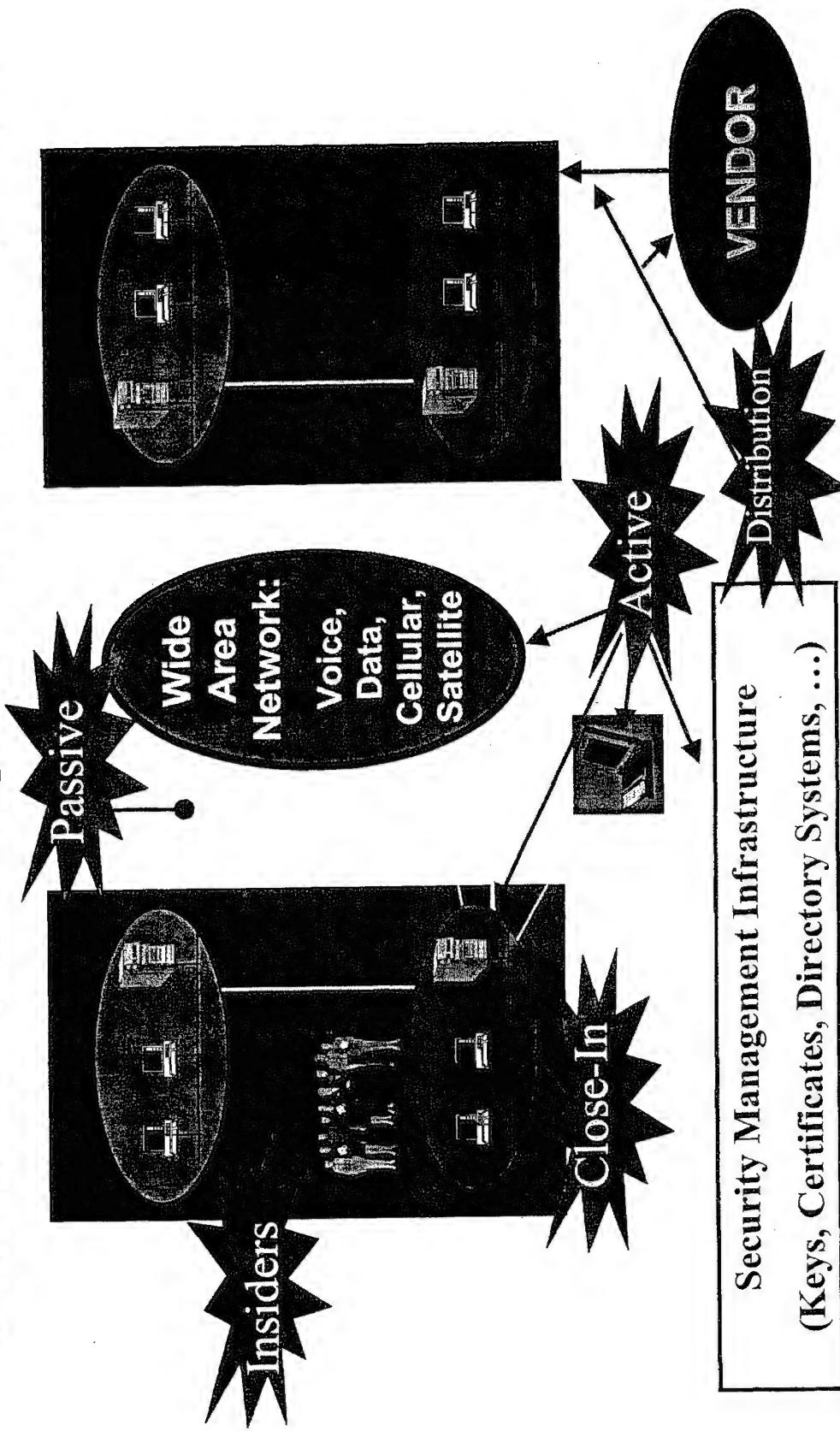
## Bottom Line Up Front (BLUF)

If you don't have an expert in Information Technology (IT) Infrastructure that's working Public Key Infrastructure, then you need to get one.

# Context

- What is the threat in the digital environment and where is it located?
- How are we currently ensuring that only authorized individuals have access to the electronic information?
- How will this change in the future?

## Classes of Attacks against Networked Systems



# Paperless Access Control Business Rules

## Current Environment (1999)

Process	Access Control
Solicitations & Awards	<p>Defined &amp; Implemented</p> <p>ID &amp; Password through Contracting System</p> <p>None, available in Public Domain</p> <p>ID &amp; Password, secure session via Secure Sockets Layer (SSL)</p> <p>Telephonically to Contractor or Electronic Data Interchange (X12) transaction set through the Federal Acquisition Network (FACNET)</p> <p>Not defined. Classified Solicitations and Awards are handled via Paper.</p>
E-Catalogs & E-Mail	<p>MIL Domain Restriction</p> <p>ID &amp; Password, secure session via Secure Sockets Layer (SSL)</p> <p>ID &amp; Password, secure session via Secure Sockets Layer (SSL)</p> <p>ID &amp; Password, secure session via Secure Sockets Layer (SSL)</p>
Technical Drawings	<p>None for Distribution A Type Drawings</p> <p>Distribution B requires ordering from the Contracting Officer, ID &amp; Password, secure session via Secure Sockets Layer (SSL)</p>
View Drawings	
Order Drawings	

# Paperless Access Control Business Rules

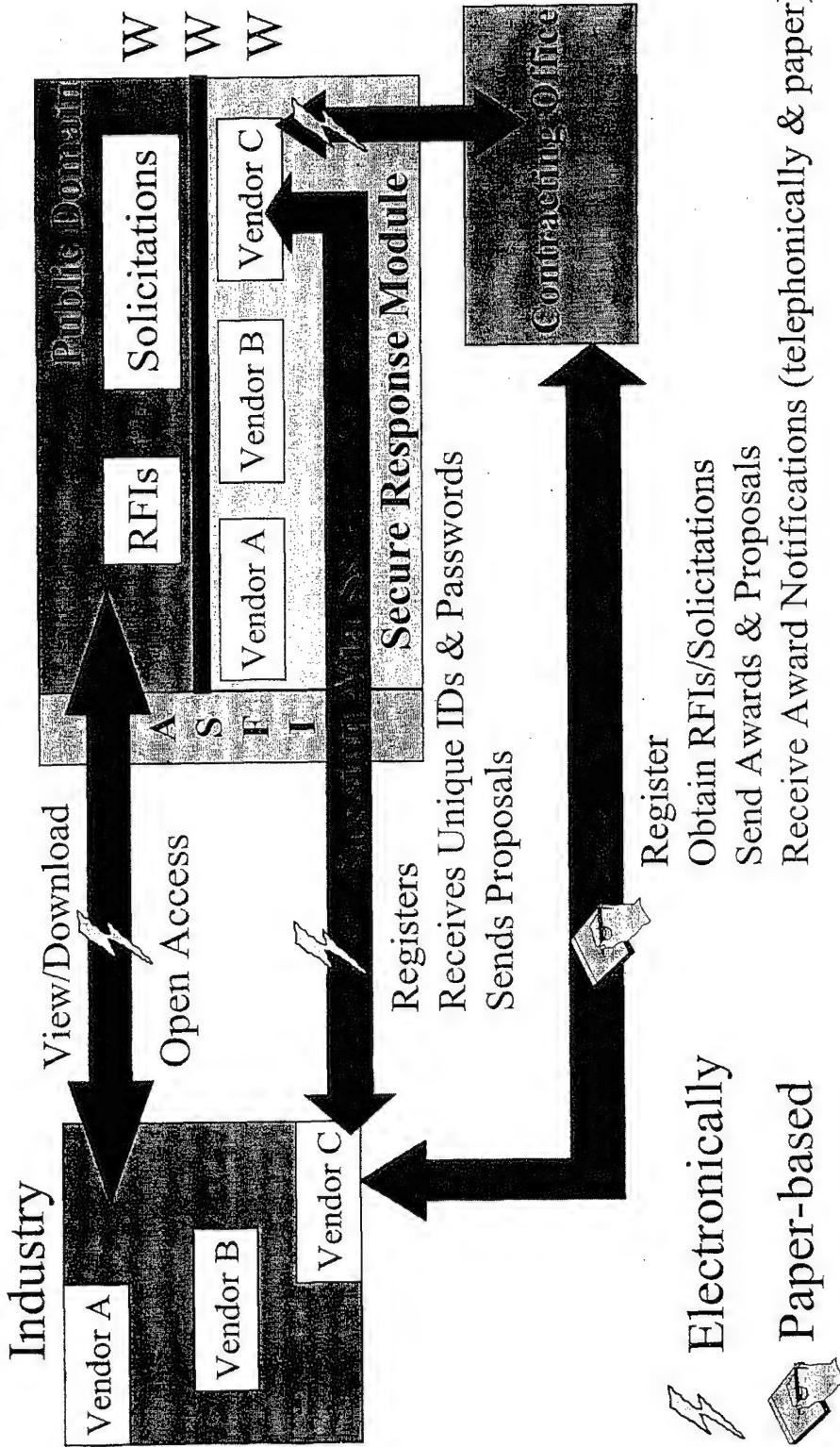
## National Future Environment (200X)

Process	Access Control
Solicitations & Awards	Partially Defined ID & Password, Authentication via Identification Certificate (PKI) None, available in Public Domain ID & Password, Authentication via Identification Certificate (PKI) and secure session via Secure Sockets Layer (SSL) To Be Defined (An OSD IPT will define the paperless business rules) Not Defined (No existing plans to migrate to paperless operations)
E-Catalogs & E-Mail	MIL Domain Restriction ID & Password, Authentication via Identification Certificate (PKI) and secure session via Secure Sockets Layer (SSL) ID & Password, Authentication via Identification Certificate (PKI) and secure session via Secure Sockets Layer (SSL) ID & Password, Authentication via Identification Certificate (PKI) and secure session via Secure Sockets Layer (SSL)
Technical Drawings	None for Distribution A Type Drawings Distribution B requires ordering from the Contracting Officer, ID & Password, Authentication via Identification Certificate (PKI) and secure session via Secure Sockets Layer (SSL)

## Business Scenarios Current Environment (1999) Solicitations & Awards w/Security Overlay

ASFI: <http://www.army-acquisition.net>

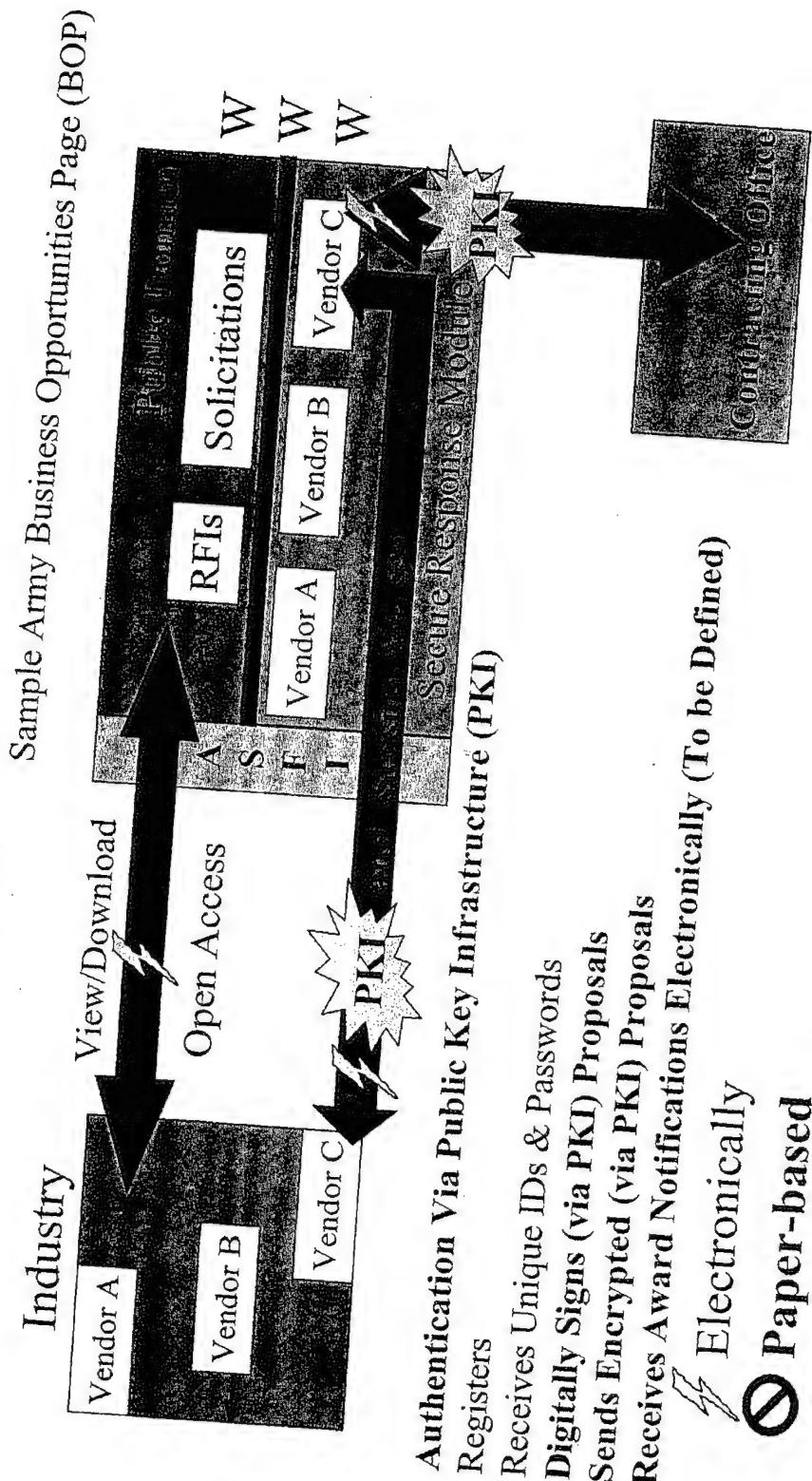
Sample Army Business Opportunities Page (BOP)



# Business Scenarios Future Environment (200X)

## Solicitations & Awards w/National Security Overlay

ASFI: <http://www.army-acquisition.net>

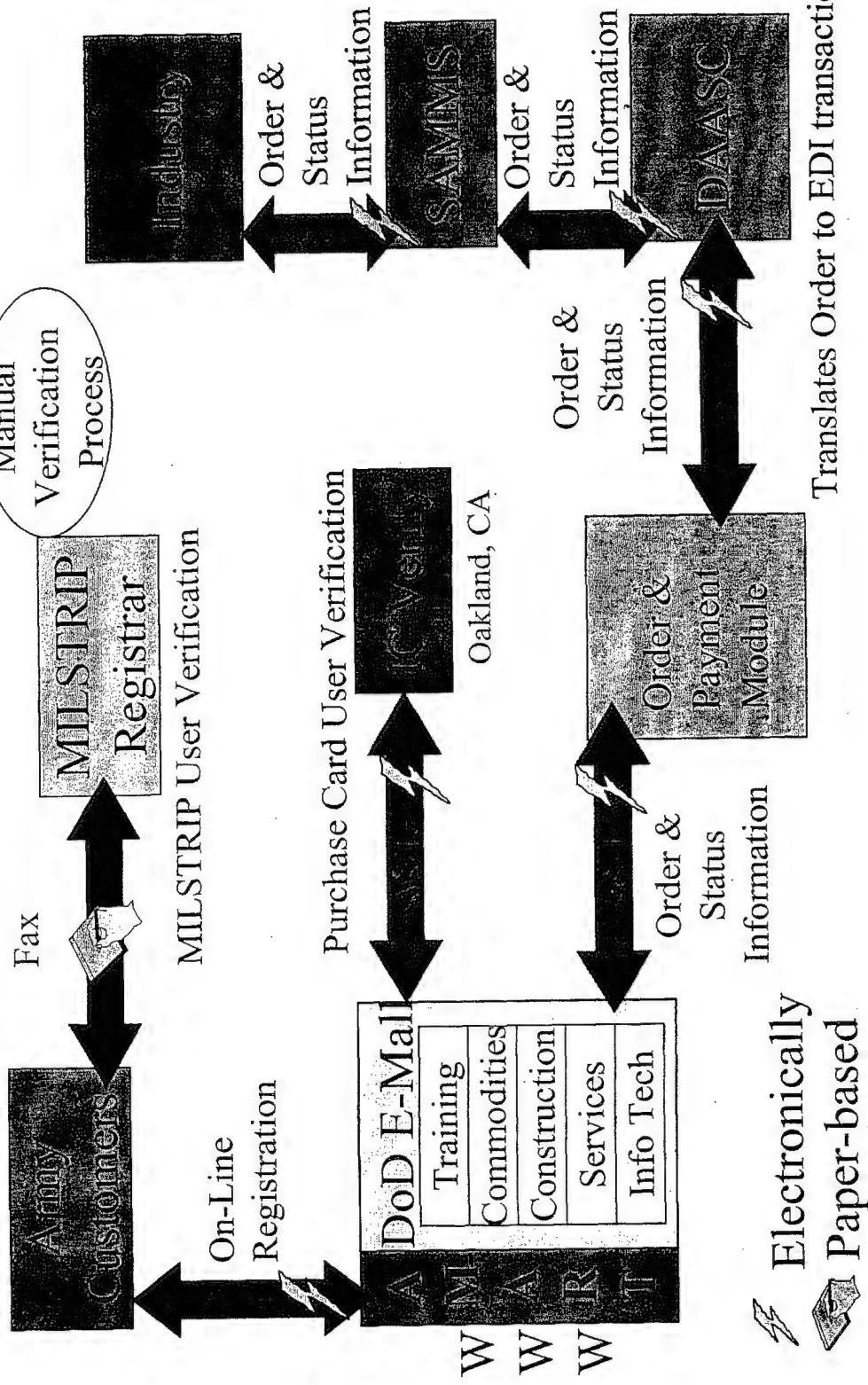


# Business Scenarios - Current Environment (1999)

## E-Catalogs & E-Mall w/Security Overlay

AMART: <http://armysarda.eexpress.com>

E-Mail: <http://www.email.dla.mil>



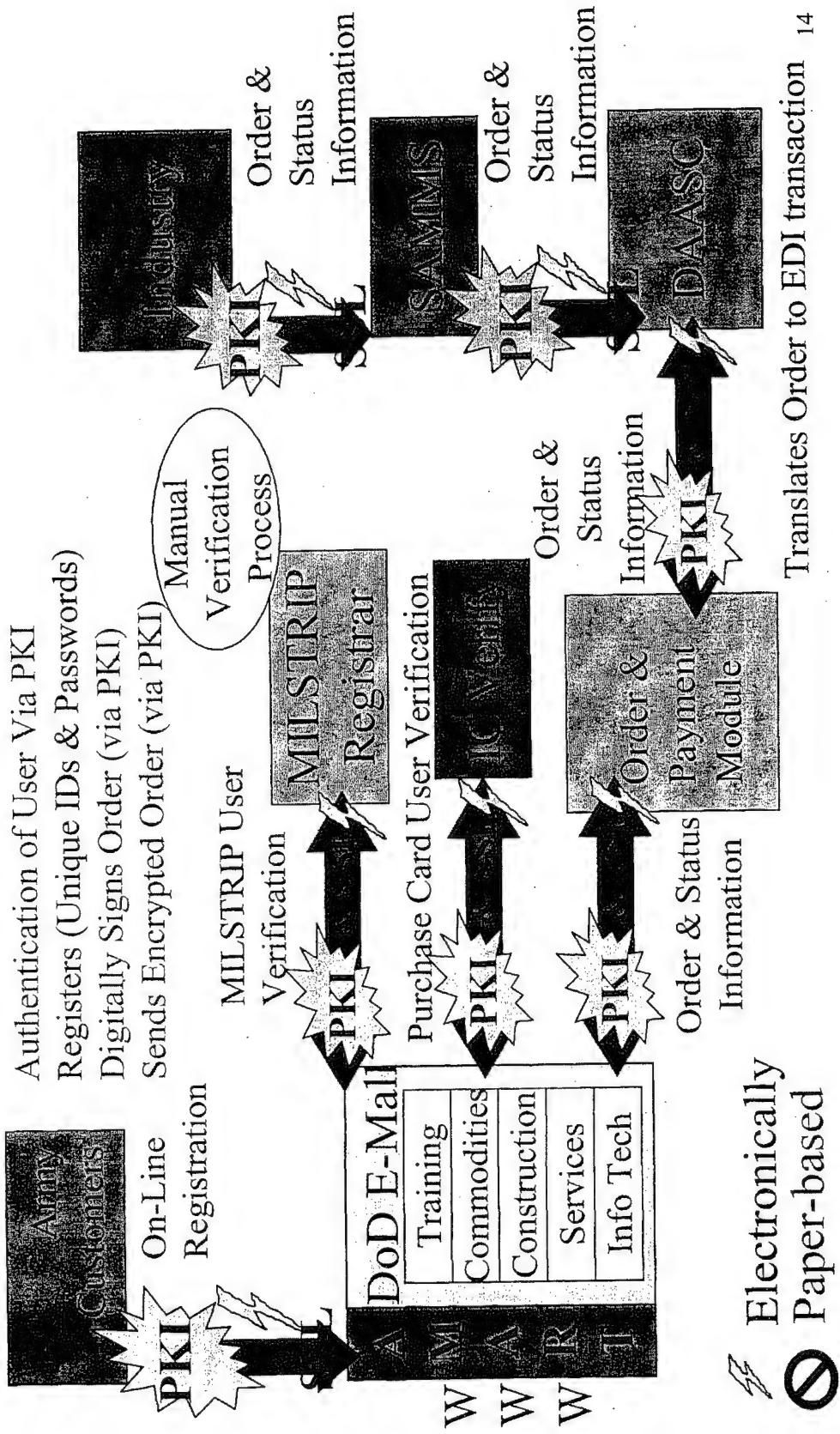
Translates Order to EDI transaction 13

# Business Scenarios - Future Environment (200X)

## E-Catalogs & E-Mall w/ Notional Security Overlay

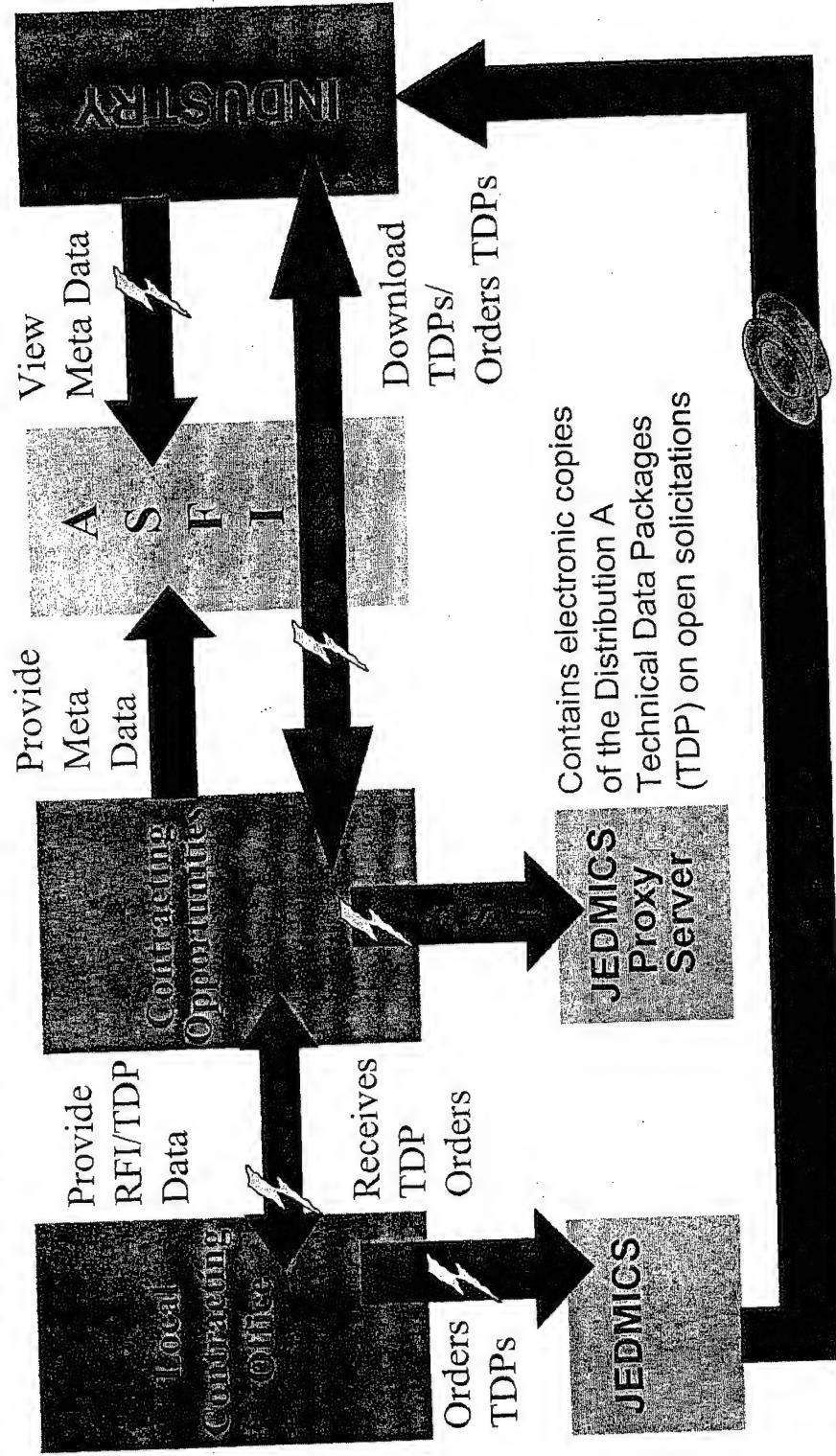
AMART: <http://armysarda.eexpress.com>

E-Mall: <http://www.emall.dla.mil>



Translates Order to EDI transaction 14

# Business Scenarios Current Environment (1999) Technical Drawings w/Security Overlay



Electronically  
Paper-based

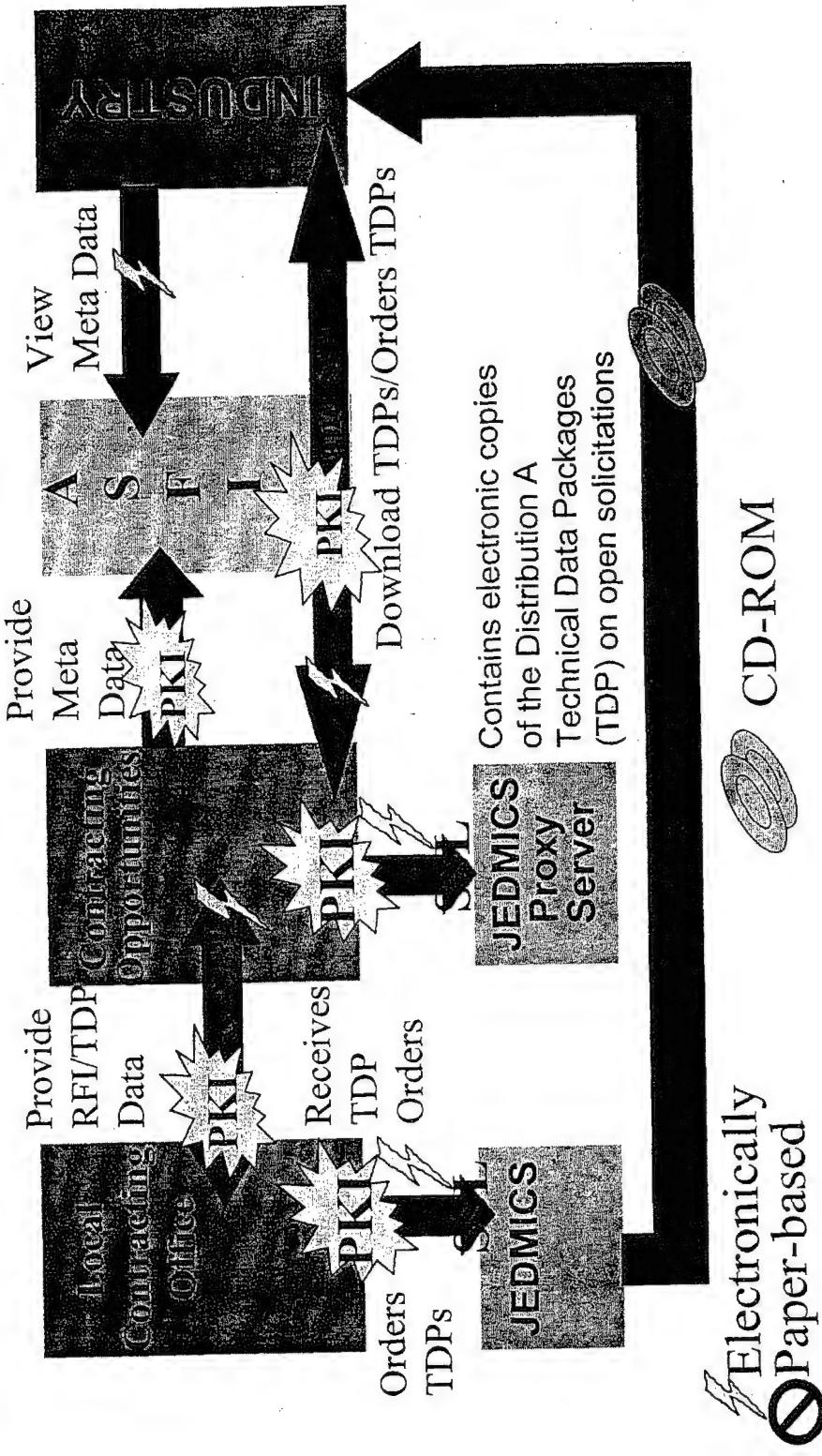


CD-ROM

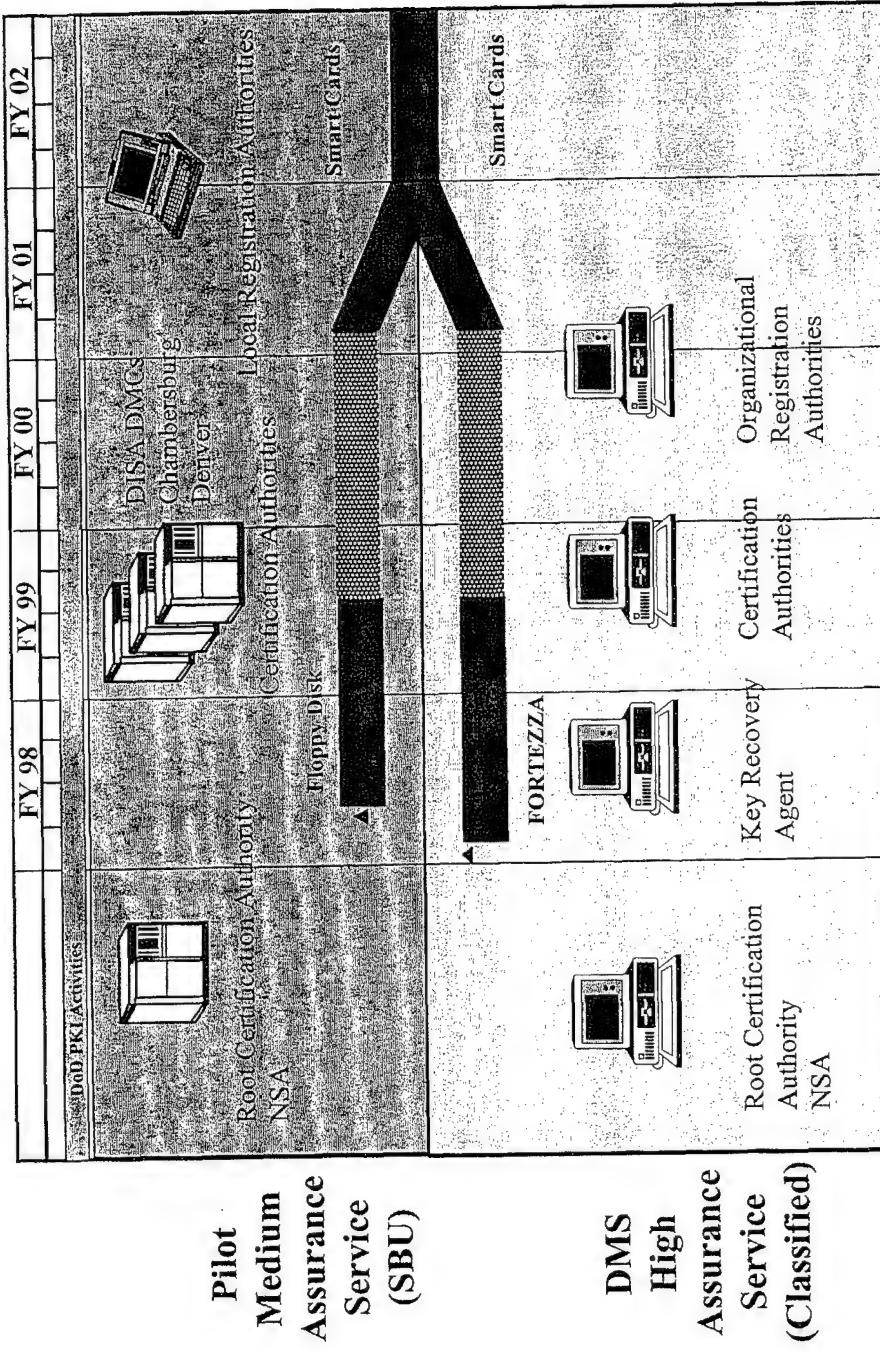


# Business Scenarios Future Environment (200X) Technical Drawings W/ Notional Security Overlay

NOTE: No Defined Business Process Changes for Future Environment  
Changes as a result of Pending DoD PKI Policy

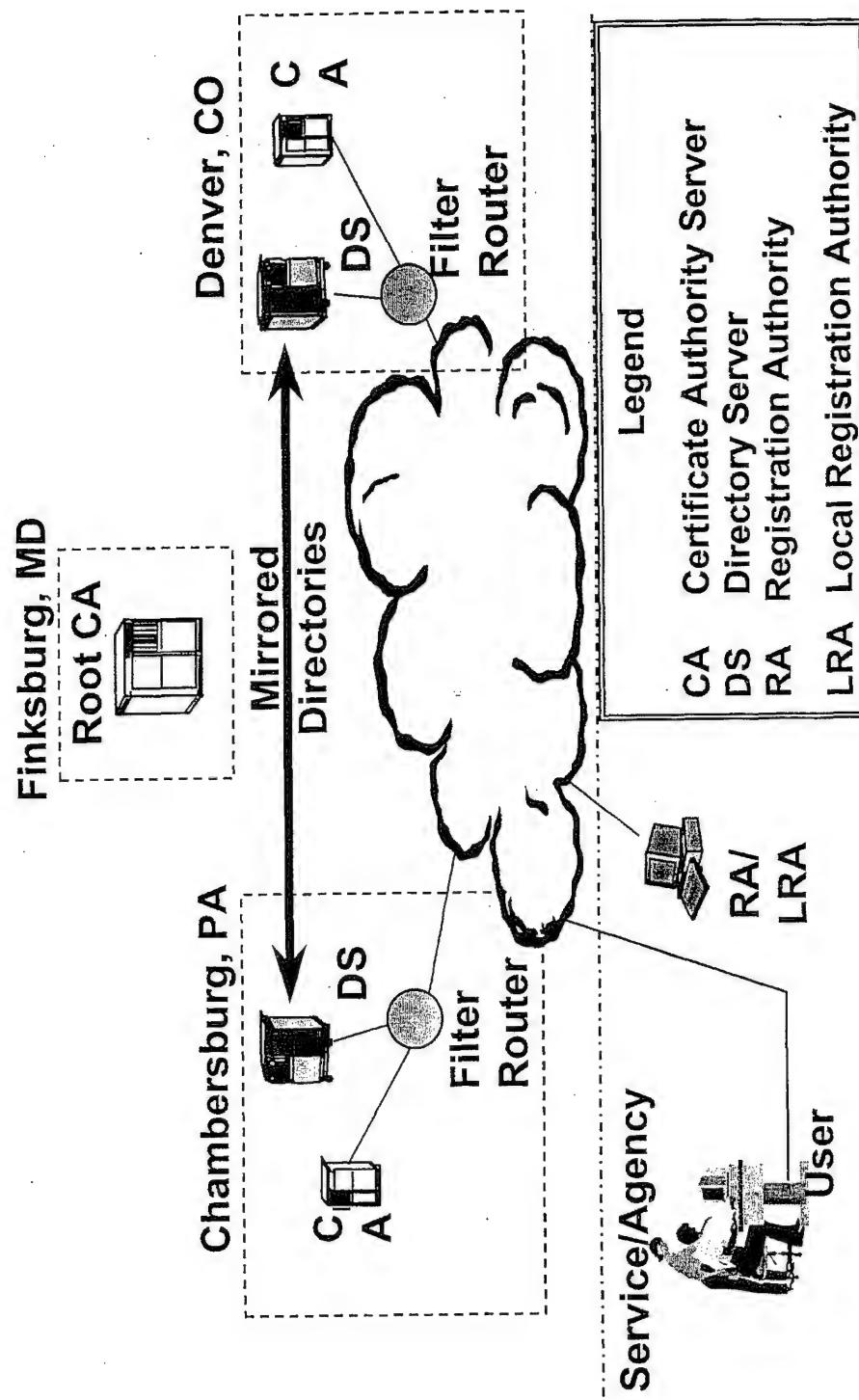


# PUBLIC KEY INFRASTRUCTURE

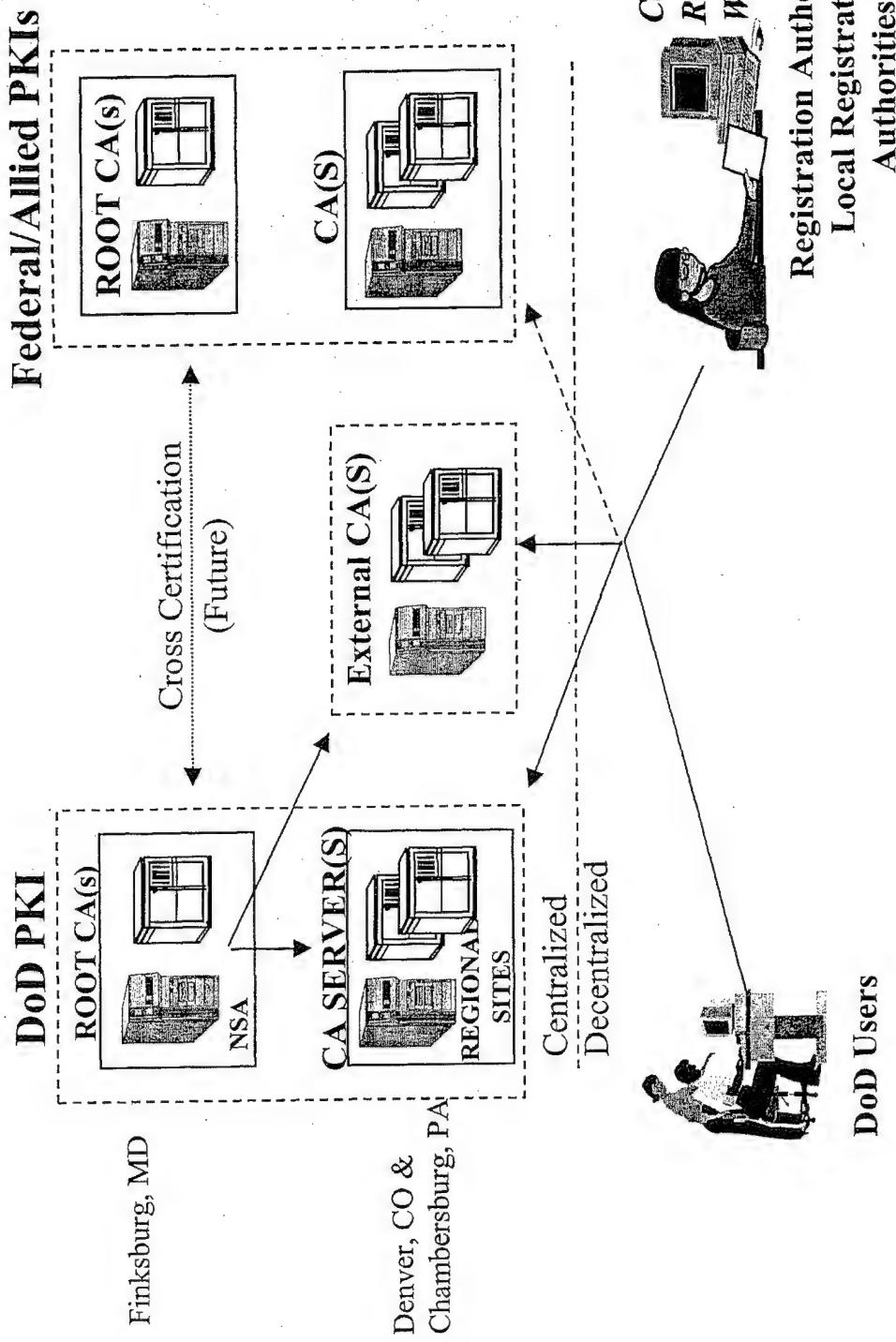


17

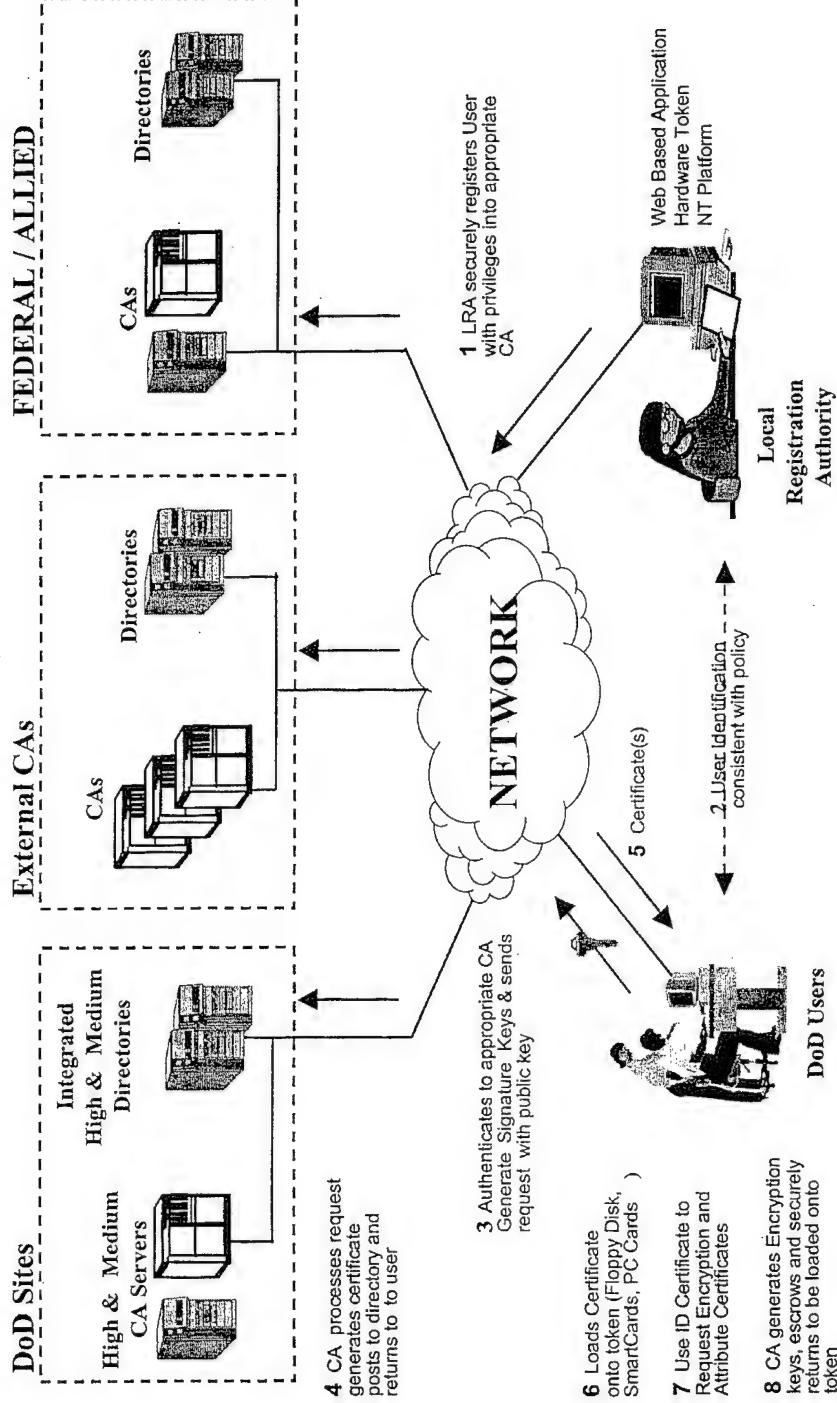
# DoD Medium Assurance Public Key Infrastructure



# Target DoD PKI Architecture for Interoperability



# Target User Registration

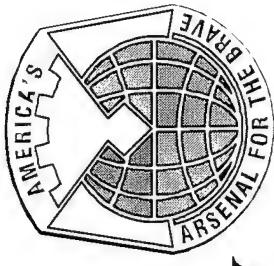


# Challenges and Opportunities

- Challenges:
  - Paperless Environment for Business Processes must be Defined/Redefined to accommodate emerging technology and security policies.
  - Obtaining the required resources to implement paperless operations.
- Achieving the cultural change to move to paperless operations
- Opportunities:
  - Achieve efficiencies by defining/redefining business processes to take advantage of information technology.
  - Securing our Information.
  - Reducing Vulnerabilities.

## RECAP

- The Threat to our information assets is real and our vulnerability is increased as we move towards paperless operations.
- We must ensure that appropriate access controls and policies are in place to safeguard our information.
- The DoD is rapidly moving towards a paper-free contracting process.
- Today's information is protected in transit through the use of SSL.
- Tomorrow's information will be afforded greater protection by the implementation of a PKI.
- Government and Industry must work together as we begin to implement a DoD PKI to ensure interoperability is achieved.
- Uncle Sam Wants You!



# 1999 ATLANTA XXV ACQUISITION REFORM SURVEY 20 APRIL 1999

Presented by  
**MG Greenberg (RET), NDIA**  
with Mr. Tull, AMC

## ACQUISITION REFORM AS SEEN BY INDUSTRY AND ARMY

►RESULTS OF THE 1999 NATIONAL DEFENSE INDUSTRIAL ASSOCIATION & ARMY SURVEYS \* :

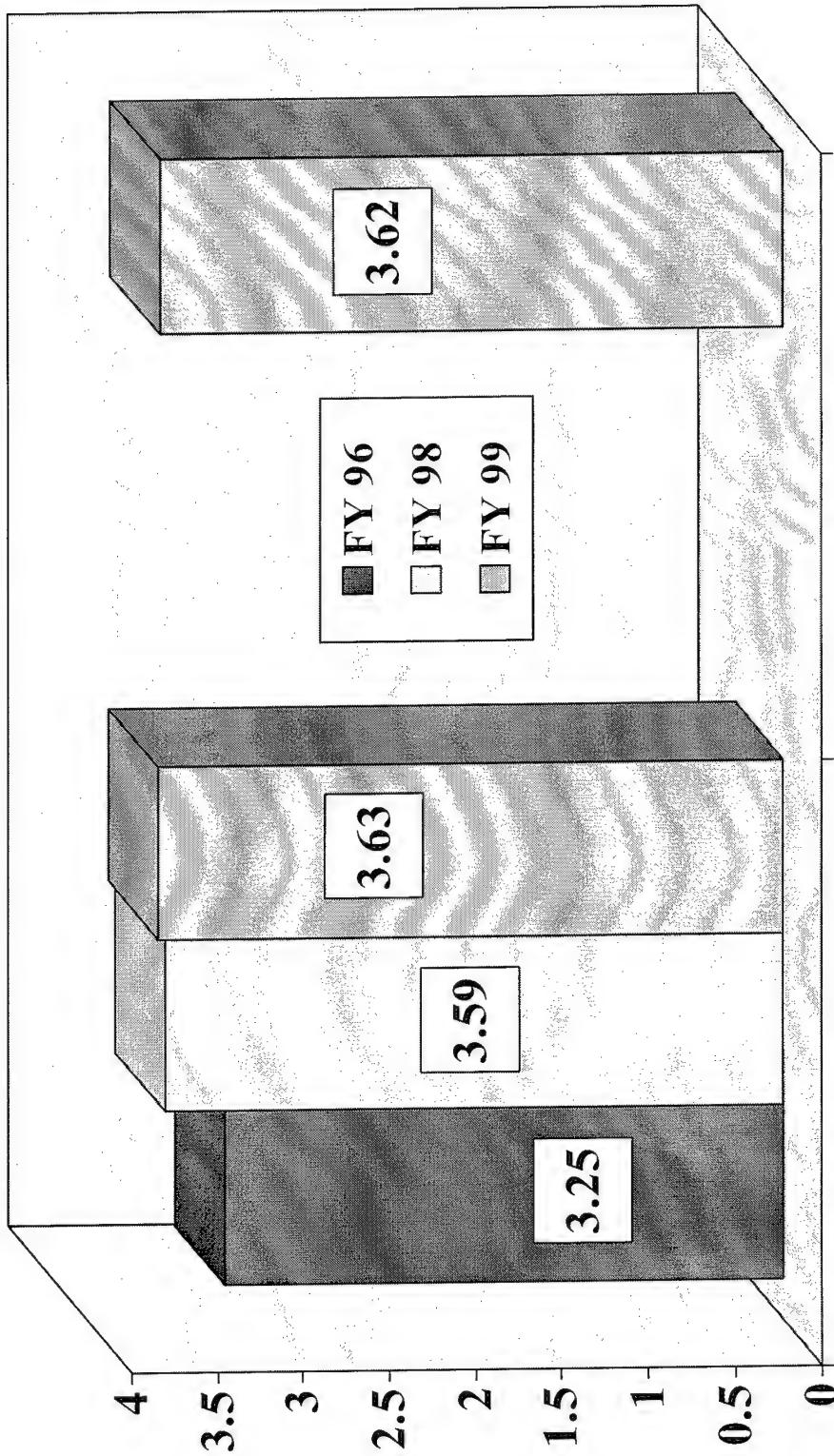
- • DOES INDUSTRY UNDERSTAND ACQUISITION REFORM (AR)
  - • PROGRESS MADE BY COMPANIES IN IMPLEMENTING AR
  - • PROGRESS MADE BY ARMY IN IMPLEMENTING AR
  - • HOW WELL IS AR BEING IMPLEMENTED ON DIFFERENT CONTRACT TYPES
  - • WHAT CONCRETE RESULTS COMPANIES ARE ACHIEVING
  - • HOW PROGRESS VARIES AMONG FEDERAL AGENCIES
  - • USED RATING SCALE OF 1-5 ( 5 BEING THE HIGHEST)
- SURVEYS OF ARMY & INDUSTRY COMPARE “APPLES TO APPLES”

\* 59 Industry Responses / 112 Army Responses

2 of 12

## Survey Section I

# HOW WELL DO COMPANIES UNDERSTAND ACQUISITION REFORM?



ARMY  
COMPANIES

## ASPECTS OF AR BEST UNDERSTOOD BY COMPANIES

- |  | FY96 | FY98 | FY99   |
|--|------|------|--------|
| Mil Specs Replaced w/ Commercial/Performance Specs | 3.80 | 4.14 | 4.15** |
| Source Selection Based on Best Value               | 3.70 | 3.97 | 4.13** |
| Use of IPPD and IPTs                               |      |      | 4.12*  |
| Mil Specs Replaced w/ Commercial Performance Specs |      |      | 4.05*  |
- Mil Specs Replaced w/ Commercial/Performance Specs
  - Source Selection Based on Best Value
  - Use of IPPD and IPTs
  - Mil Specs Replaced w/ Commercial Performance Specs

## ASPECTS OF AR LEAST UNDERSTOOD BY COMPANIES

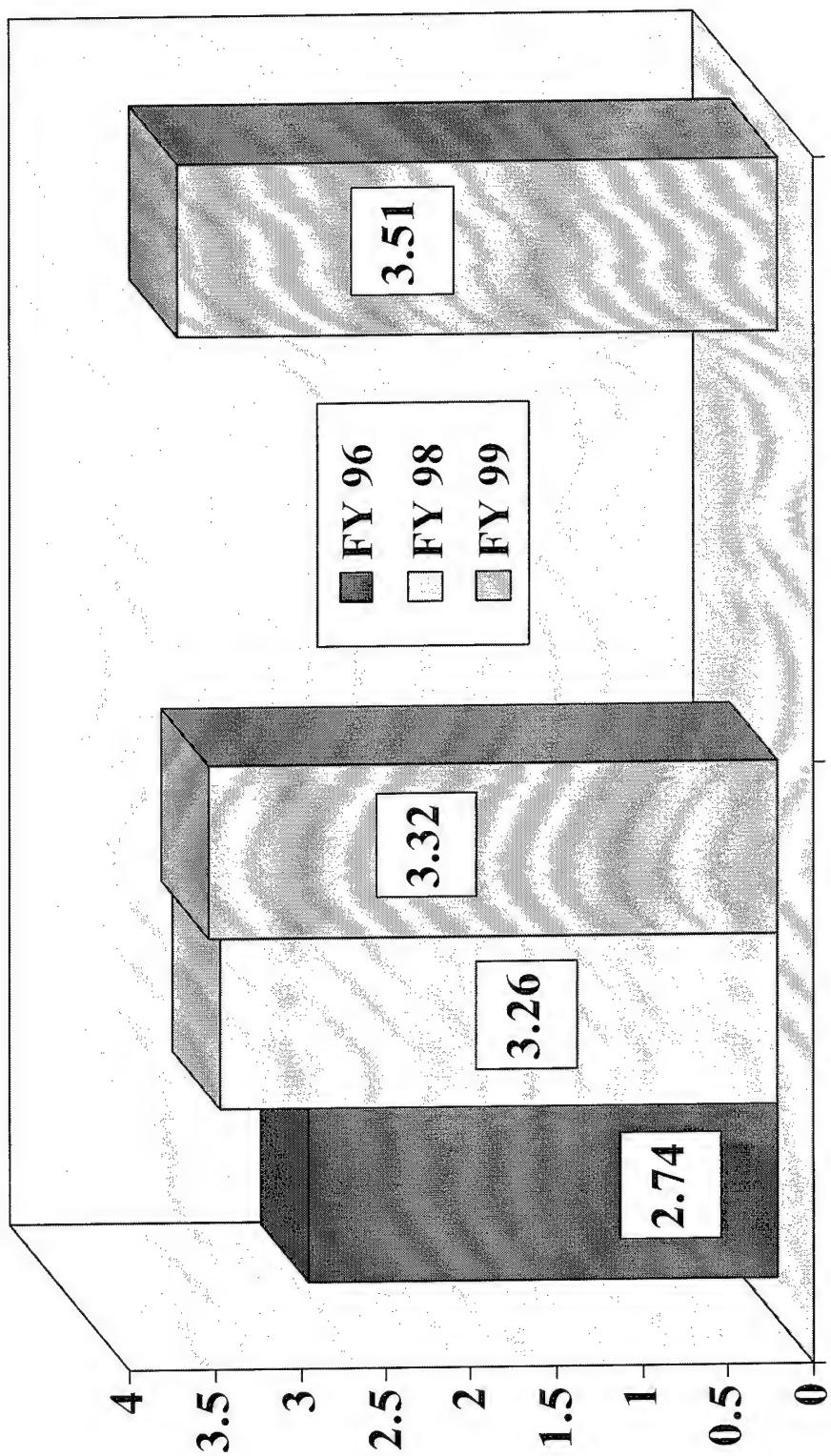
- |   | FY96 | FY98 | FY99   |
|---|------|------|--------|
| DoD Mgmt Transition from “Oversight” to “Insight”         | 2.70 | 2.81 | 2.68** |
| Government Commercial Buying Practices                    | Unk  | 3.11 | 3.12** |
| DoD Mgmt Transition from “Oversight” to “Insight”         |      |      | 2.95*  |
| DoD “Block Change” & “Common Process Facility” Initiative |      |      | 3.31*  |
- DoD Mgmt Transition from “Oversight” to “Insight”
  - Government Commercial Buying Practices
  - DoD Mgmt Transition from “Oversight” to “Insight”
  - DoD “Block Change” & “Common Process Facility” Initiative

\*\* Industry Response

\* Army Response  
4 of 12

Survey Section II

## WHAT PROGRESS HAS BEEN MADE BY INDUSTRY IN IMPLEMENTING ACQUISITION REFORM?



COMPANIES

ARMY

## WHERE ARE COMPANIES MAKING THE MOST PROGRESS IMPLEMENTING AR?

- |  | FY96 | FY98 | FY99   |
|--|------|------|--------|
| • Use of IPPD and IPTs                         | Unk  | 3.72 | 3.97** |
| • Tracking and Improvement of Past Performance | Unk  | 3.82 | 3.88** |
| • Use of IPPD and IPTs                         |      |      | 3.94*  |
| • Elimination of Military Specifications       |      |      | 3.85*  |
- Use of IPPD and IPTs
  - Tracking and Improvement of Past Performance
  - Use of IPPD and IPTs
  - Elimination of Military Specifications

## WHERE ARE COMPANIES MAKING LEAST PROGRESS IMPLEMENTING AR?

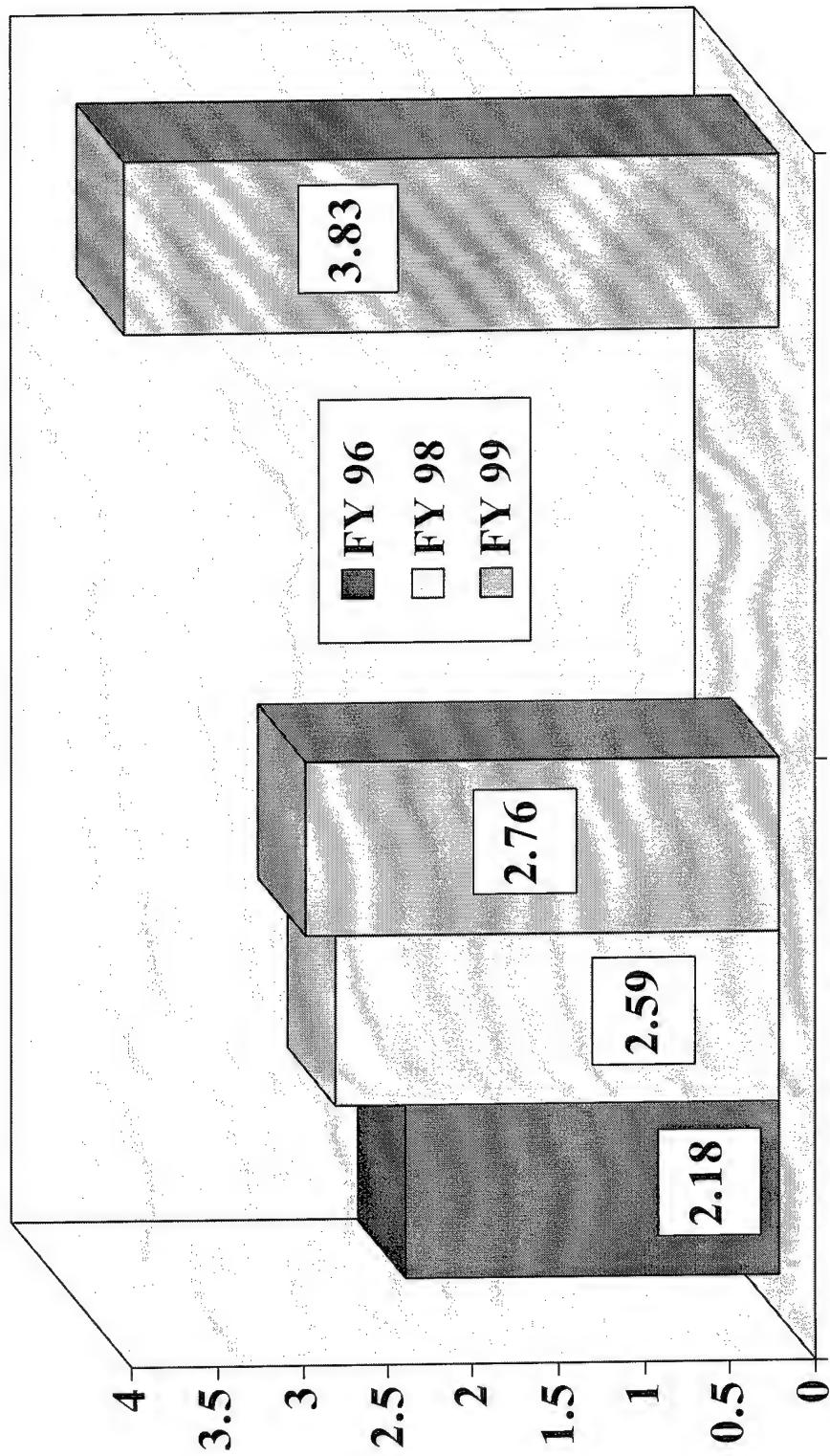
- |  | FY96 | FY98 | FY99   |
|--|------|------|--------|
| • Use of Alternative Dispute Resolution and Partnering | 2.30 | 2.89 | 2.83** |
| • Fixed Priced Commercial Products and Services        | Unk  | 2.77 | 2.94** |
| • Fixed Priced Commercial Products and Services        |      |      | 3.10*  |
| • Implementation of Electronic Commerce                |      |      | 3.28*  |
- Use of Alternative Dispute Resolution and Partnering
  - Fixed Priced Commercial Products and Services
  - Fixed Priced Commercial Products and Services
  - Implementation of Electronic Commerce

\*\* Industry Response

\* Army Response  
6 of 12

Survey Section III

## WHAT PROGRESS HAS ARMY MADE IN IMPLEMENTING ACQUISITION REFORM?



ARMY  
COMPANIES

104

## WHERE IS THE ARMY MAKING THE MOST PROGRESS IMPLEMENTING AR?

- |  | FY96 | FY98 | FY99   |
|--|------|------|--------|
| • Management through IPPD and IPTs                         | Unk  | 3.09 | 3.36** |
| • Source Selection Based on Best Value                     | 2.70 | 3.08 | 3.10** |
| • Management through IPPD and IPTs                         |      |      | 4.26*  |
| • Use of Performance Specs at End-System/End-Product Level |      |      | 4.05*  |
- Management through IPPD and IPTs
  - Source Selection Based on Best Value
  - Management through IPPD and IPTs
  - Use of Performance Specs at End-System/End-Product Level

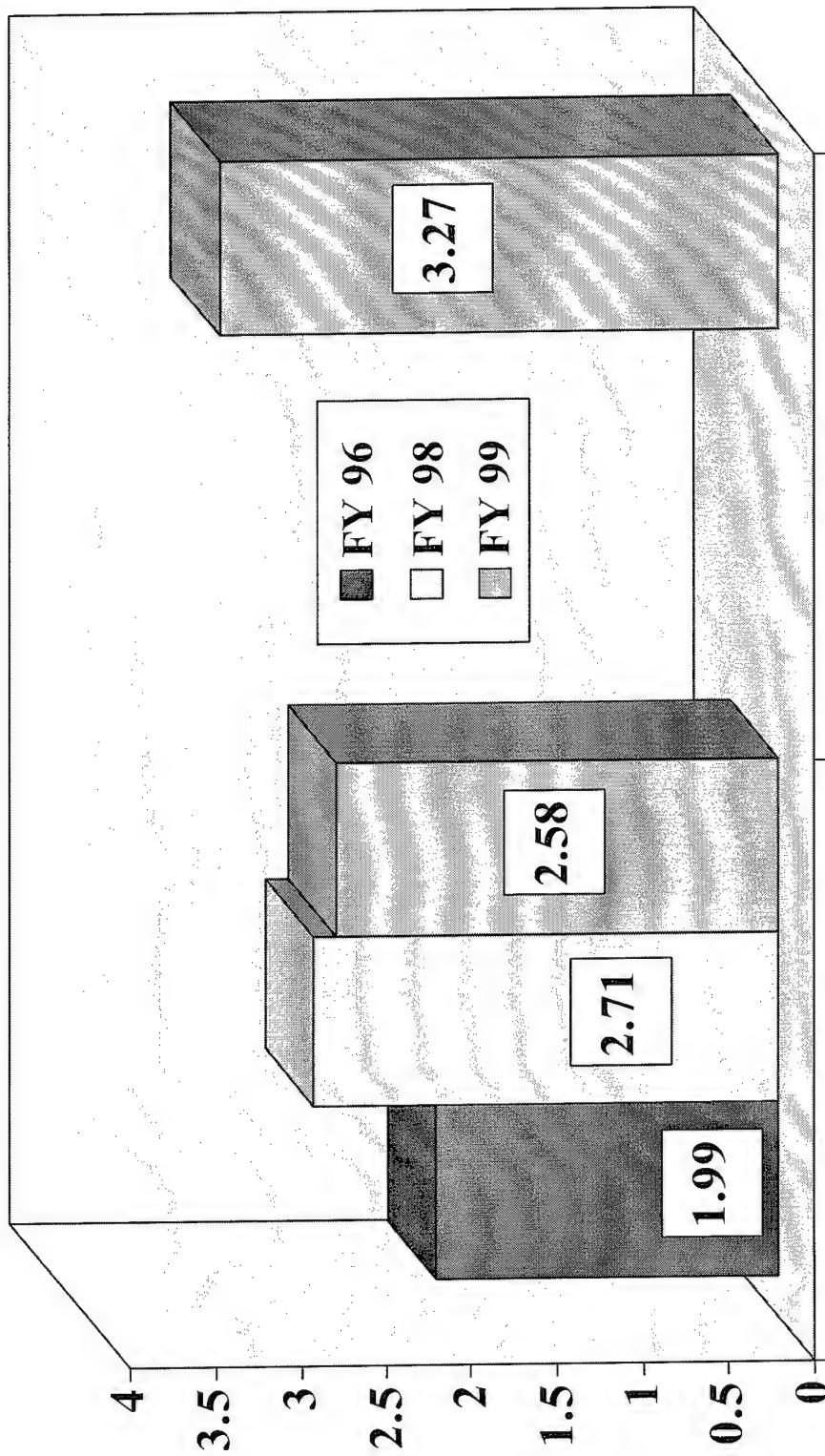
## WHERE IS THE ARMY MAKING LEAST PROGRESS IMPLEMENTING AR?

- |   | FY96 | FY98 | FY99   |
|---|------|------|--------|
| • Commercial Products and Services as Defined in FASA   | 1.90 | 2.16 | 2.24** |
| • Replacement of Arms Length/Litigation Relationship with Alternative Dispute Resolution and Partnering | Unk  | 2.38 | 2.33** |
| • DoD “Block Change” & “Common Process Facility” Initiative   |      |      | 3.33*  |
| • Commercial Products and Services as Defined in FASA   |      |      | 3.51*  |
- Commercial Products and Services as Defined in FASA
  - Replacement of Arms Length/Litigation Relationship with Alternative Dispute Resolution and Partnering
  - DoD “Block Change” & “Common Process Facility” Initiative
  - Commercial Products and Services as Defined in FASA

\*\* Industry Response

\* Army Response  
8 of 12

**HAVE YOU SEEN CONCRETE RESULTS  
IN THE OPERATIONS OF COMPANIES  
AS A RESULT OF ACQUISITION REFORM?**



**COMPANIES**

**ARMY**

## WHERE HAS AR MOST IMPROVED THE PROCESS FOR INDUSTRY?

- |                                    | <u>FY96</u> | <u>FY98</u> | <u>FY99</u> |
|------------------------------------|-------------|-------------|-------------|
| • The Draft RFP Process            | 2.70        | 3.30        | 3.35**      |
| • Communication with DoD Customers | Unk         | 3.02        | 2.97**      |
| • The Draft RFP Process            |             |             | 3.90*       |
| • Communication with DoD Customers |             |             | 3.57*       |
- The Draft RFP Process
  - Communication with DoD Customers
  - The Draft RFP Process
  - Communication with DoD Customers

## WHERE HAS AR LEAST IMPROVED THE PROCESS FOR INDUSTRY?

- |   | <u>FY96</u> | <u>FY98</u> | <u>FY99</u> |
|---|-------------|-------------|-------------|
| • Proposal Preparation is Less Expensive                          | 1.70        | 2.31        | 2.06**      |
| • Non-Value Added Oversight Audits and Inspections Have Decreased | 1.50        | 2.38        | 2.26**      |
| • Significant Cost Savings Achieved on Existing Contracts         |             |             | 2.71*       |
| • Proposal Preparation is Less Expensive                          |             |             | 2.89*       |
- Proposal Preparation is Less Expensive
  - Non-Value Added Oversight Audits and Inspections Have Decreased
  - Significant Cost Savings Achieved on Existing Contracts
  - Proposal Preparation is Less Expensive
- \* \* Industry Response

\* Army Response  
10 of 12

## HOW WELL IS AR BEING IMPLEMENTED ON DIFFERENT TYPES OF PROCUREMENTS?

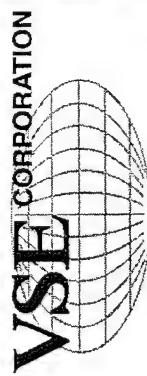
	<u>FY96</u>	<u>FY98</u>	<u>FY99*</u>
MAJOR PROGRAMS	2.40	3.45	3.19 / 4.11
ENGINEERING & TECHNICAL SERVICES	1.70	2.55	2.83 / 3.72
ANALYTICAL & ASSESSMENT SERVICES	2.10	2.23	2.61 / 3.63
NON-MAJOR PROGRAMS	2.00	2.86	2.59 / 3.79
OPERATION & MAINTENANCE	1.70	2.29	2.53 / 3.54
SPARES/REBUYS	1.70	2.18	2.48 / 3.18

\* Industry Response / Army Response  
<sub>11 of 12</sub>

## HOW WELL IS EACH AGENCY MANAGING ACQUISITION REFORM?

	<u>FY96</u>	<u>FY98</u>	<u>FY99*</u>
AIR FORCE	3.20	3.30	3.23 / 4.10
ARMY	2.70	3.17	2.95 / 4.10
NAVY	2.10	2.66	2.71 / 3.79
DLA	2.10	2.50	3.08 / 4.33

\* Industry Response / Army Response  
<sub>12 of 12</sub>



## PARTNERING WITH SMALLER BUSINESSES IN A COMPETITIVE ENVIRONMENT

*“Small and Mid-size Companies  
Competing With and Against Mega-  
Sized Businesses”*

## *COMPETING IN A CHANGING ENVIRONMENT*

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- ◆ Due to resource constraints DOD is increasing the size of the service contracts (Omnibus contracts)
- ◆ "Mega-sized" hardware companies find large services contracts more attractive as traditional OEM business declines

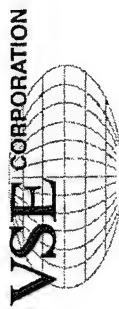


## *THE SQUEEZE*

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- ◆ Economics favor large business
- ◆ Government policy helps small business
- ◆ Mid-size firms caught in middle



## *THE CONSEQUENCE*

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- ◆ Overall cost increases to the Government
- ◆ Mergers/Acquisitions reduce "competition base"



## *FACTORS DRIVING BUSINESS STRATEGIES*

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- ◆ Use of large omnibus service contracts
- ◆ Fuel acquisition/merger fire (reduces "competition base")
- ◆ Bundling (hurts small/mid-sized companies)
- ◆ Limits competition -- increases B&P costs
- ◆ Mega-sized companies can low ball and freeze out small/mid-sized companies
- ◆ Length of contracts
  - ◆ Ten years too long --no viable bidders remain
  - ◆ Allows opportunity to bid contract at loss for 5 years - make up in last 5 years



## *FACTORS DRIVING BUSINESS STRATEGIES*

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- ◆ Large scale multiple award task & delivery order contracts
- ◆ Attractive to mega-sized companies
  - ◆ Strong arm tactics
  - ◆ JV's with mega-companies nearly impossible for small mid-sized companies
- ◆ Compete at 2 levels - drives up B&P cost
- ◆ Drives to lowest price - not best value
- ◆ Small business/mid-sized companies not perceived as creditable bidders (management capability/ financial strength)

## *FACTORS DRIVING BUSINESS STRATEGIES*

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- ◆ Past Performance (Impacts Small, Mid-Size and Mega Companies)
  - ◆ Improves performance of marginal as well as good companies
  - ◆ Improper use, either inadvertently or by design, could destroy viable business
- ◆ Performance evaluation plan should be specified in RFP/Contract
- ◆ Direct requests to other Agencies by Contracting Officers is an uncontrolled process



## *FACTORS DRIVING BUSINESS STRATEGIES*

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### **PAST PERFORMANCE (continued)**

- ◆ Past Performance Evaluation/Award fee separate process (only need one)
- ◆ Need better system to review and challenge before misunderstandings get reduced to writing
- ◆ Mega-sized companies - have advantage -- poor performance -- bid from another division/business unit
- ◆ Teaming Partners certify no history of bad performance



## *CONCLUSIONS*

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- ◆ Service contracting has been around a long time
- ◆ Process is not broken (suggested areas of improvement)
  - ◆ GAAP vs.CAS (reduce contractor costs)
  - ◆ SBA Reevaluate Small Business Size Standards
  - ◆ Expand Partnering Concept
- ◆ Consider Preservation of “Competition Base” as “Best Value” Eval Factor
- ◆ Move to Performance Based Contracts
  - ◆ Develop Metrics for Eval
- ◆ Consistent with Past Performance Evals



## *CONCLUSIONS (continued)*

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- ◆ A-76 is failed process
- ◆ Needs major rework
- ◆ Procurement Reform made it more difficult and costly for service contractors
- ◆ DOD current procurement strategies threaten “competition base” by fueling mergers/ acquisitions
- ◆ DOD Review Procurement Strategies and how/where they are driving Service Industry



# ATLANTA XXXV

## Panel 2

Partnering with Smaller Businesses  
In Competitive Environments

Large Company Viewpoints

April 20, 1999

Peter DeMayo  
Vice President Contract Policy  
Lockheed Martin Corporation



## AQUISITION REFORM

- Top DOD priority. Lots of success stories.
- DOD initiatives on commercial products and commercial practices need more attention
- Fertile ground for broadening industrial base and encouraging smaller businesses to participate in DOD requirements
- Larger businesses need to take the lead
  - Association activity
  - Direct company involvement
  - Flow the benefits of acquisition reform to supplier base
- Teaming is the key

*A*

## **SMALL BUSINESS - PARTNERING LARGE COMPANY VIEWPOINTS**

### **GENERAL INDUSTRY INVOLVEMENT**

#### **Trade Associations Play a Key Role**

- AIA Establishes Supplier Management Council
- Better Representation for Supplier Issues
- Better Communication of Aerospace Industry Requirements

#### **Requirements**

- Supplier Measurement
- Acquisition Reform
- Electronic Commerce

#### **Role For Other Association Support**

## **SMALL BUSINESS - PARTNERING LARGE COMPANY VIEWPOINTS**

- DOD downsizing requires that large businesses provide greater support toward meeting small businesses goals and objectives
- Traditional Government programs can be supported by large companies
  - Small Business
  - Small Disadvantage Business
  - Women Owned Business
  - HBCU/MI
- Small Business can contribute to best value. There are many high quality small business firms in the industrial base.

## SMALL BUSINESS - PARTNERING LARGE COMPANY VIEWPOINTS

- Working with Historically Black Colleges and Universities and Minority Institutions (HBCU/MIs)
- Contract Awards for
  - Research and Development
  - Feasibility Studies
- Lockheed Martin Success Stories
  - Florida A&M University - Involved in Chip Wafer Fabrication and development of Ultra Capacitors - LME&M
  - Norfolk State - Light Weight Composite Material Testing for Tecnico

## SMALL BUSINESS - PARTNERING LARGE COMPANY VIEWPOINTS

- Establishing Mentor / Protégé Programs
  - Assist Small Businesses in Business Development, Marketing, Quality Assurance, Human Resources, Engineering, Training etc.
- Lockheed Martin and Mentor Protégé Success Stories
  - LM Electronics and Missiles and TLC Precision-Chip wafer technology
  - LM Vought and Tecnico Light Weight Composite material - PAC-3 Missile
  - LM Electronics and Missiles and TJ Technologies - Ultra Capacitors - JASSM
  - LM Aeronautics and Enginetechs - C130 Galley

## SMALL BUSINESS - PARTNERING LARGE COMPANY VIEWPOINTS

- Issues to be Worked
  - Teaming Difficult - Limited Capital investment Available
  - Ensure Small Business receives contract after being part of competitive award
  - Keep Small Business involved when contract bundling.  
Requires innovation.
  - Keep open option for Small Business to be Prime with support by large business

*A*

*L O C K H E E D M A R T I N*

## SMALL BUSINESS - PARTNERING LARGE COMPANY VIEWPOINTS CONCLUSION

- Industry looks for continued success with Small Business.
  - All part of change.
    - Outreach through Home Pages
    - Meeting and Conferences
  - Redefined relationships do not alter the imperative
    - Small Business participation makes sense - business sense.
    - Government and large business needs to agree on rules and expectations

**J.M. WILLE**  
ASSOCIATES  
MANAGING PARTNERS / OWNERS

ENVIRONMENT  
MANAGEMENT  
ENGINEERING  
PLANNING  
ENERGY

Burke, VA • Atlanta, GA  
San Antonio, TX • Oak Ridge, TN

## TEAMING WITH A LARGE BUSINESS

A SMALL BUSINESS PERSPECTIVE



## *PROFILE OF J.M. WALLER ASSOCIATES, INC.*

- An Engineering Services Company
- Incorporated in 1993
- Minority-Owned Business
- SBA 8(a) Certified
- Participates in the Mentor/Protege Program



## **MANAGEMENT & TECHNICAL SERVICES**

- Environmental Engineering & Management
- Facilities Management
- Hazardous Material & Waste Management & Training
- Public Information & Outreach
- Information Technology & Management



## MAJOR CLIENTS

- Department of the Army
- Department of the Air Force
- U.S. Army Forces Command
- U.S. Army Training and Doctrine Command
- U.S. Army Reserve Command
- Army Corps of Engineers
- Army Environmental Center
- Air Force Center for Environmental Excellence
- Military Installations - CONUS, Hawaii, Germany & SW Asia



## WHY WOULD A SMALL BUSINESS CONSIDER TEAMING WITH A LARGE BUSINESS?

- Client Bundling or Broad Scope Contracts
- Lack of Sufficient Set-Asides
- Add Depth and Breadth to its Capability
- Provide Specialty or Niche Services
- Introduction to New Clients
- Improve Potential for Contract Award
- Enhance Proposal Writing Capabilities

**J.M. WEAVER**  
ASSOCIATES  
MANAGING THE VISION

# J.M. WALLER ASSOCIATES EXPERIENCE WITH TEAMING ARRANGEMENTS (AS THE PRIME)

## OBSERVATIONS

- Teaming Partners Have Been Responsive
- Partners Provided Depth to the Team
- Quality of Proposals has Improved Significantly
- Success Has Been Slow in Coming



# J.M. WALLER ASSOCIATES EXPERIENCE WITH TEAMING ARRANGEMENTS (AS THE SUB)

## OBSERVATIONS

- Prime Must Commit a Specific Portion of the Contract to Small/Minority Business
- Large Business Must Strive to Meet Small/Minority Contractual Goals
- A Good Reputation as a Competent Sub is Imperative
- A Significant Challenge for the Small Company



## WHY WOULD A SMALL BUSINESS CONSIDER PARTICIPATING IN THE MENTOR/PROTEGE PROGRAM?

- Expand Business
- Increase Client Exposure
- Broaden Technical Capabilities
- Achieve Technology Transfer
- Create Infrastructure Enhancements
- Become a Preferred Provider to the Mentor

**J.M.WILLER**  
ASSOCIATES  
M A N A G I N G T H E V I S I O N

## SUMMARY

- All Small and Minority Businesses Are Not Alike
- Large Businesses Should Identify Good Small/Minority Businesses Now
- Small/Minority Business Participation on Federal Contracts Is Likely to Increase
- Federal Contract Oversight Is Likely to Improve
- Presence of a Good Small/Minority Business Will Be Necessary and Helpful
- Mentor/Protege Program Relationship Offers Excellent Opportunities



**Atlanta XXXV Executive Seminar:**  
**Panel 3 - Public/Private Enterprise**

**LTC Paul J. Kern**

*Director, Army Acquisition Corps*

21 April 1999

"*Soldiers Are Our Customers*"

Atlanta\_25-1



## Atlanta XXV Panel Members

LTG Paul J. Kern

*Director Army Acquisition Corps*

BG George A. Landis

*US Army (Ret.), Vice President and  
Deputy, Product Support Division  
Raytheon Systems Company*

Mr. Fred Strader

*Vice President and General Manager,  
United Defense Armament Systems  
Division*

COL Gregory F. Potts

*Commander, Anniston Army Depot*

Mr. Jerry DeMuro

*Vice President and General Manager,  
Communication Systems Division,  
GTE Government Systems Corp.*

Mr. Dan Gans

*Military Legislative Assistant to  
Representative Riley, Alabama*

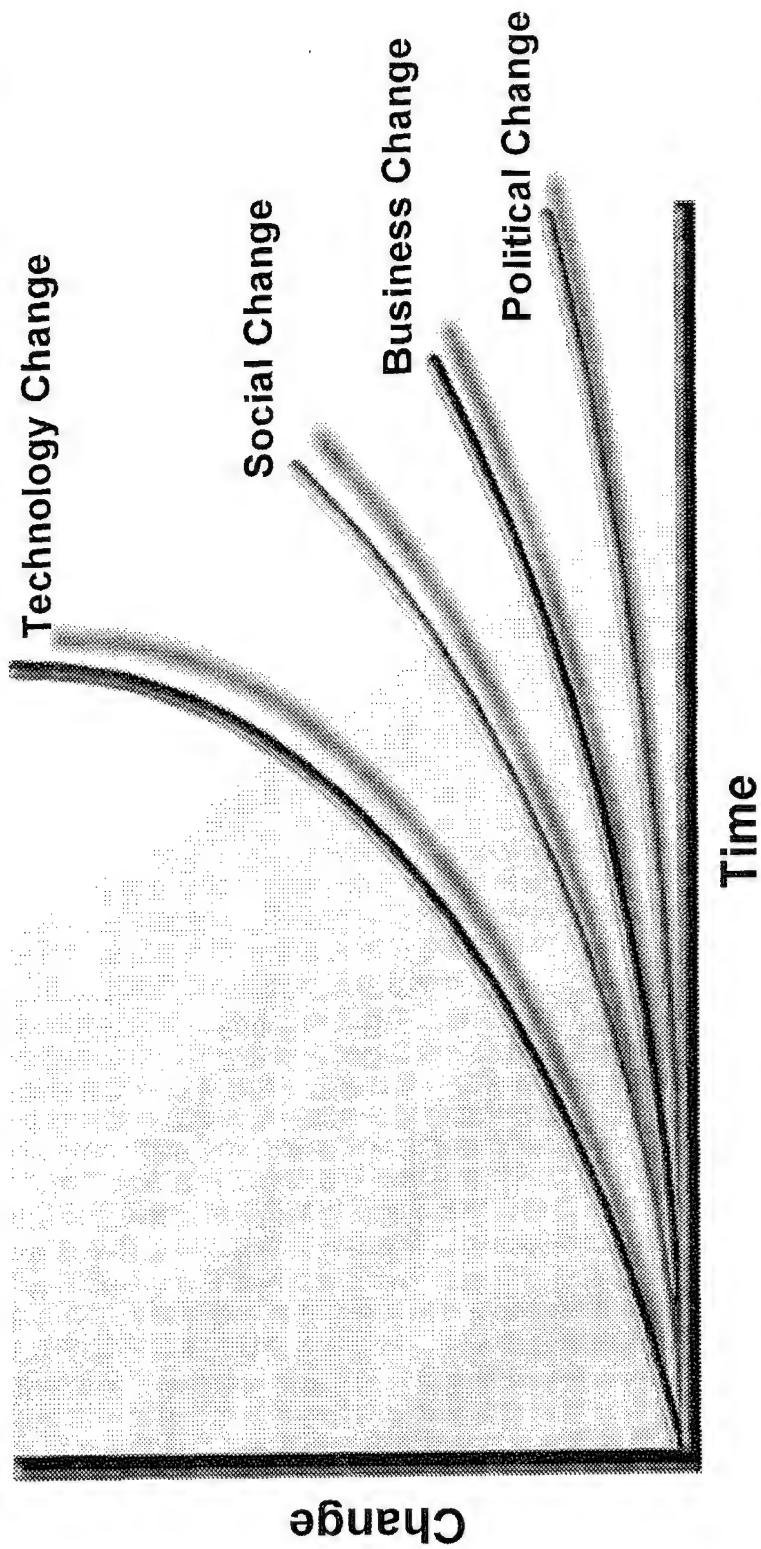
*"Soldiers Are Our Customers"*

Atlanta\_25-2

# The Law of Disruption



*Law of Disruption = Combination of Moore's and Metcalfe's Laws*



*Social, Political and Economic Systems Change Incrementally, but Technology Changes Exponentially!*

From the book "Unleashing the Killer App" by Larry Downey/Chanku Mui

*"Soldiers Are Our Customers"*

Atlanta\_25.3



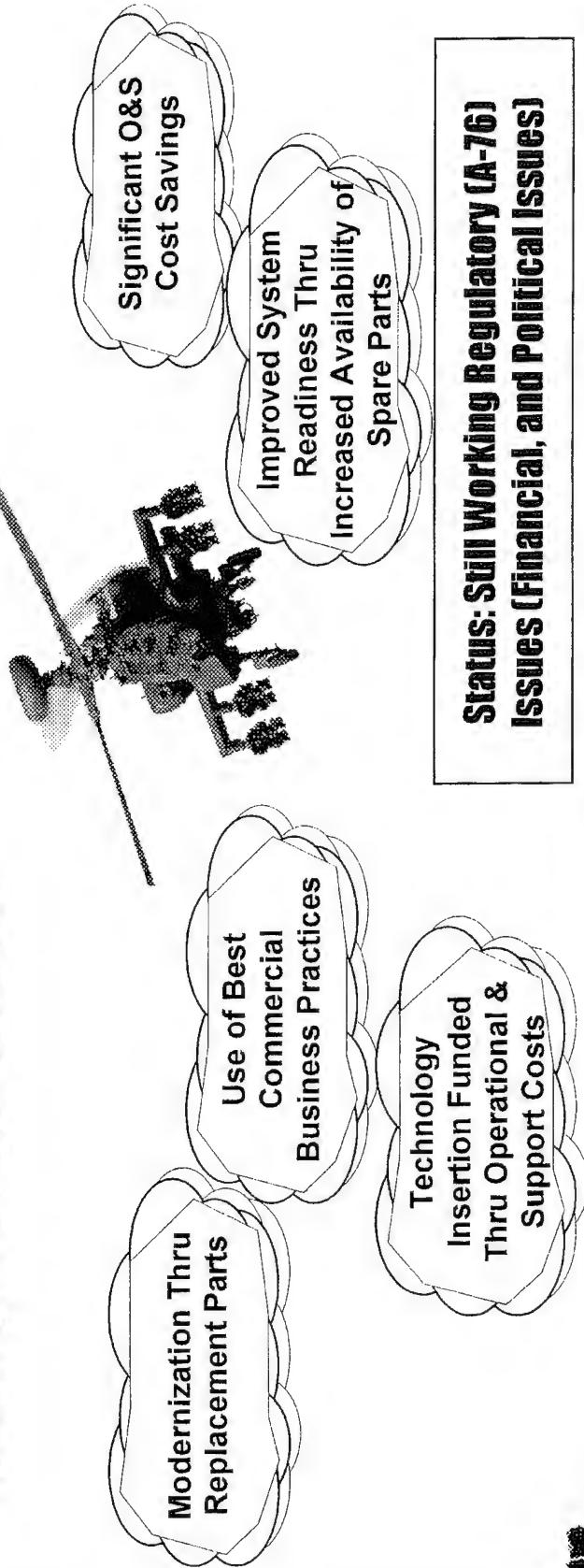
# Apache Prime Vendor Support



- Prime Vendor Support
- Unsolicited Proposal - April 97
- Contract Negotiation Completed - May 98
- Revamps Current Logistic System -
- Takes Advantage of Best Commercial Practices & Performance Guarantees

- Apache Prime Vendor Support Provides:

- Depot Level Maintenance
- Wholesale Logistics Support
- Increased Technical Support



**Status: Still Working Regulatory (A-76) Issues (Financial, and Political Issues)**

*"Soldiers Are Our Customers"*

Atlanta\_25-4



## What is Apache Prime Vendor Support

- Apache Prime Vendor Support (PVS) is a Type of **Contractor Logistics Support (CLS)** That Assigns (“**Nose to Tail**”) **Wholesale Logistics Support** of the Helicopter to Private Contractor(s), i.e., Boeing and Lockheed Martin
- It is Intended to **Revamp the Current Apache Logistics System** by Taking Advantage of Best Commercial Practices, Performance Guarantees, and Incentivizing the Contractor to Sell us Reliable Parts Rather Than Spares
- We Expect PVS to **Improve System Readiness** Through the Increased Availability of Spare Parts and Yield **Significant O&S Savings** That can be Used to Modernize the Aircraft



*“Soldiers Are Our Customers”*

Atlanta\_25-5

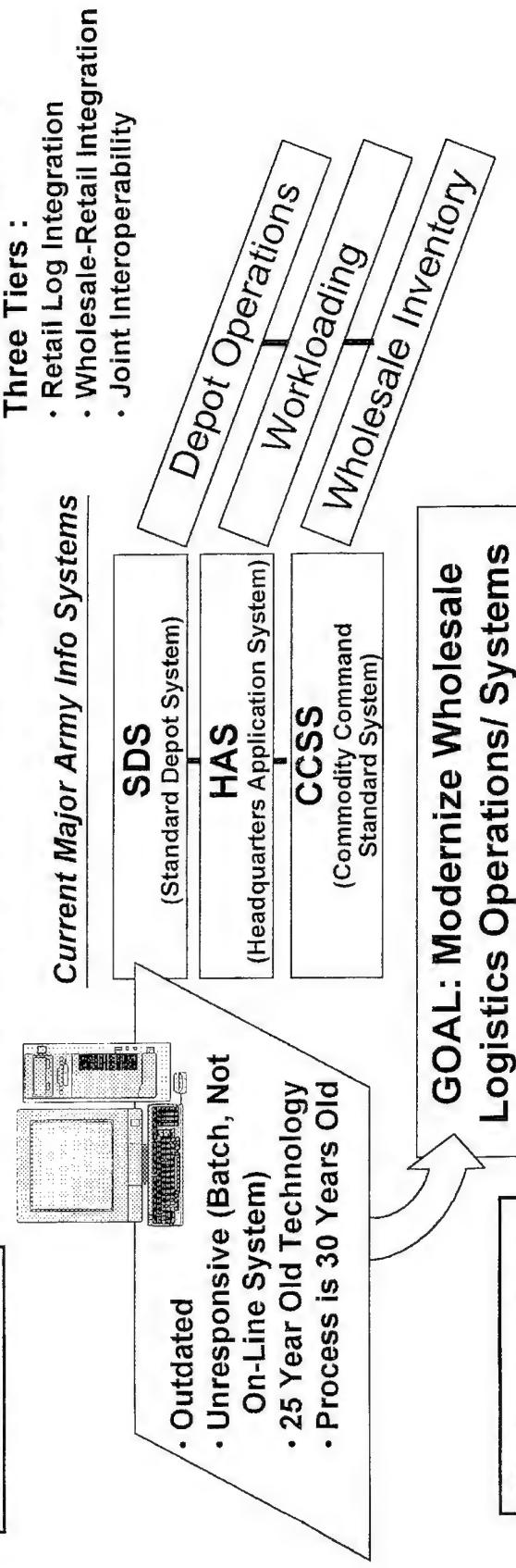


# Wholesale Logistics Modernization Program

Tier II of GCSS-Army

**CSA Direction**

→ **Implement Global Combat Support System - Army**



## Modernization Approach

- Leverage Private Sector
- Adopt Best Commercial Practice
- Use Modern Commercial Info Technology
- Use Continuous Technology Insertion/ Commercial IT Services

## CRITICAL ON-GOING ACTIONS

- A- 76 Waiver Pending Approval
- RFP - Ready for Release
- RFP + 10 months = Contract Award

"*Soldiers Are Our Customers*"



Atlanta\_25-6

Raytheon

# A 25 Year Relationship Building on the Past to Shape the Future

## Public/Private Enterprise

George A. Landis  
Vice President and Deputy for Logistics  
Training & Services  
Raytheon Systems Company

## What Privatization Requires:

- Willingness to prioritize interests of the Soldier
- Objective cooperation
- Responsive contracting vehicles/mechanisms
- Real-time communications
- Best business practices
- Trust

## What Privatization Does Not Need:

- Excessive Federal direction
- Unnecessary delays
- Sub-optimizing national interests
- To gain a reputation as:
  - way around BRAC
  - way to protect site work loads
  - a means to consolidate depot functions
  - a means to protect service specific functions
  - maintaining an existing spare parts production lines

# Raytheon & City of Indianapolis

- Successful public/private partnership

- Mission:

- To support America's Naval Air capability with quality engineering, manufacturing and depot services.
- To support the Navy's modernization of forces by providing significant O & S savings through performance excellence and Best Business Practices.

# Raytheon & National Training Center

- Successful public/private partnership
- Mission:
  - To support a “trained and ready” fighting force for the 21st Century
  - To support Operations Group in providing joint and combined arms training focused on developing soldiers, leaders, and units of America’s Army

# Working Hand & Glove

Raytheon and the U.S. Army are working hand and glove providing seamless operations in these areas:

- Instrumentation
  - Civilians on the Battlefield
- Live Fire
  - Training Analysis and Feedback
- Organizational Maintenance
  - System Engineering and Integration
- Battlefield Effects
  - Logistics
- Timely audio visual support to AAR process minutes after the conclusion of a battle or exchange or engagement

***Real time Army/Industry synergy!***

# Partnership

A Range of Opportunities

**Frederick M. Strader**

**General Manager, Armament Systems  
Division, United Defense**

## Crusader 155mm Gun Development Partnership

- United Defense is responsible for all systems
  - no “GFE”
- We selected the XM 297 solid propellant cannon developed by ARDEC
  - completing development under our direction
  - Crusader PM funds ARDEC efforts directly
  - prototype gun production a combination of Watervliet Arsenal, Rock Island Arsenal and United Defense
- Despite technical challenges, gun is on schedule
  - has fired 40Km
  - meeting 10+ rounds/min rate of fire

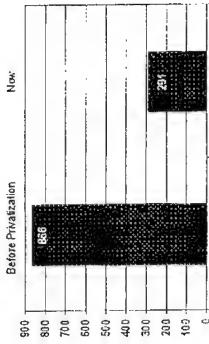
## DD 21 155mm Gun

- Private Industry is leading the development of the ships and all systems
  - “no GFE”
- Navy agreed to one core group, headed by United Defense, to develop the gun for both teams
- United Defense will design and produce the gun
- Various Navy Labs will provide support, funded directly by us
- Includes control of projectile/propellant development to allow system optimization

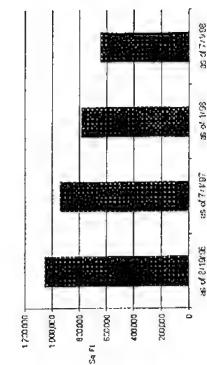
# Louisville Privatization

- Overhaul of 5" Guns
- Gun Barrel Production
- Team includes Navy ISEA and LRA
- Raytheon Privatized Separate Product
- Doubled Productivity
- Better Quality and Safety Record
- Consolidated into Less Space
- ISO 9001 certified
- Excellent Award Fee Scores
- But Navy Orders are Lower...
- Now Moving Additional Work to Louisville

Employment



Floor Space Consolidation



Hourly Charge Rate

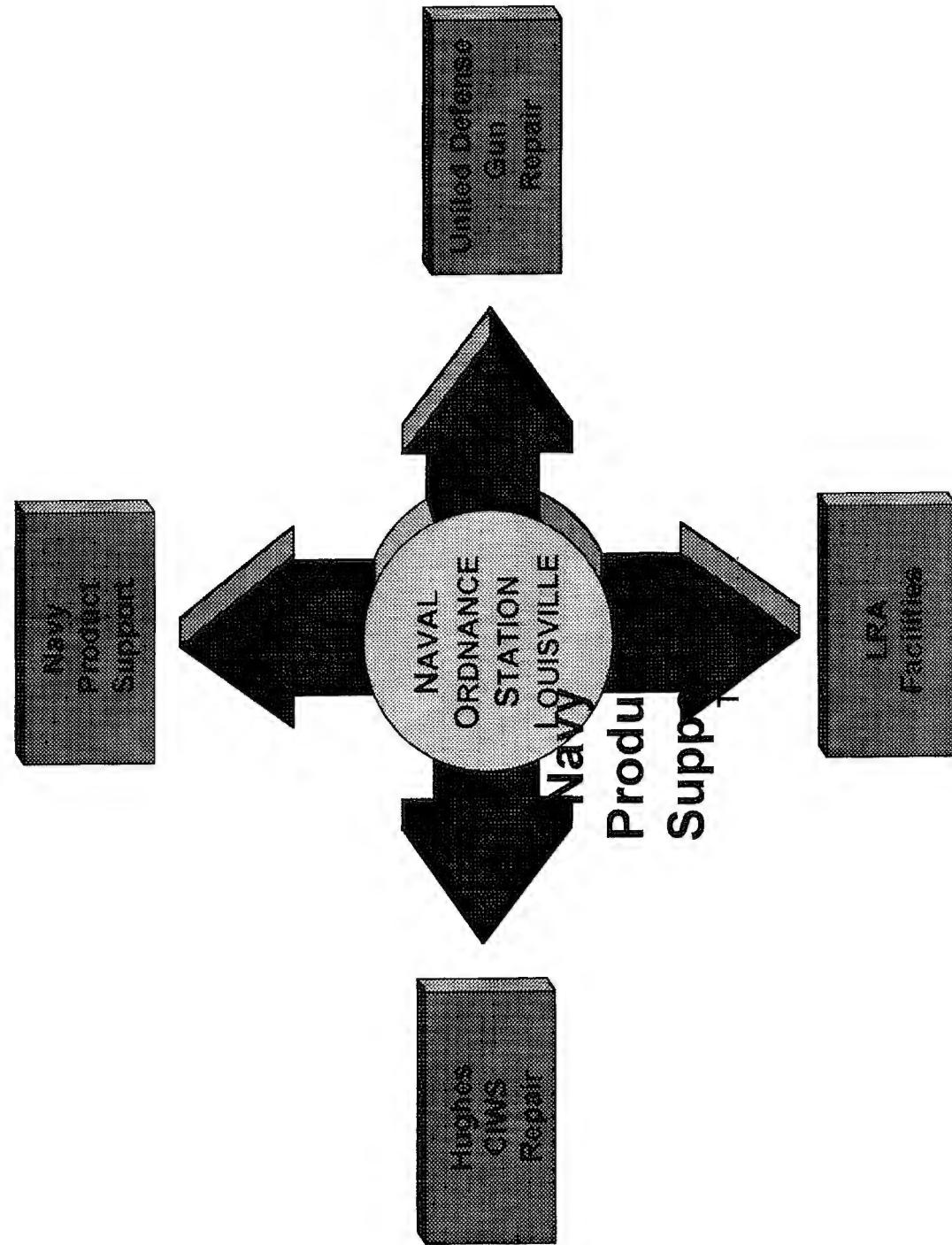


## Key Operating Mechanisms

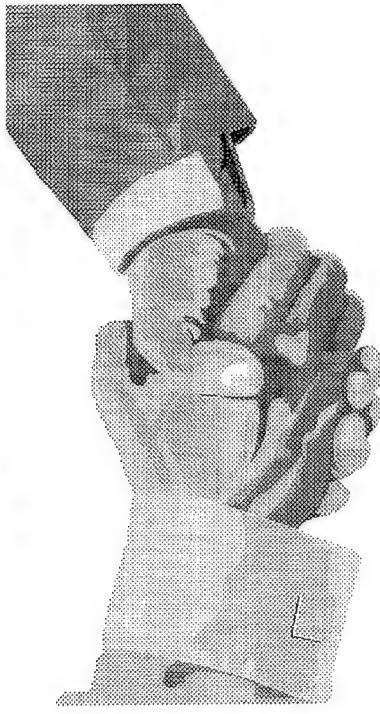
- United Defense - ARDEC Memorandum of Agreement for Crusader Cannon Development
- DD 21 Teaming Agreement
- Louisville Privatization Agreement

## Lessons Learned

- No One Best Way:
  - A range of models can produce successful results
  - Partnership can make the best use of scarce technical resources
- Biggest obstacles are Fear and Mistrust
  - Rice-bowl issues still exist
  - Must reconcile different ways of doing things
- The Cure: focus on who is the Real Customer, and what are their real needs
- Privatization has its own lessons learned
  - "This is a Political Event"



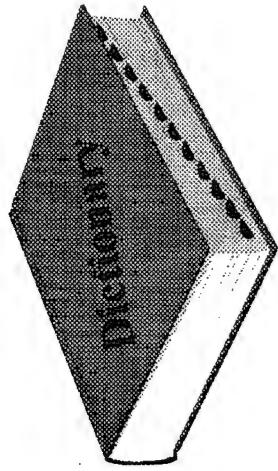
**INDUSTRY/GOVERNMENT PARTNERSHIPS  
FOR  
SYSTEM SUPPORT**



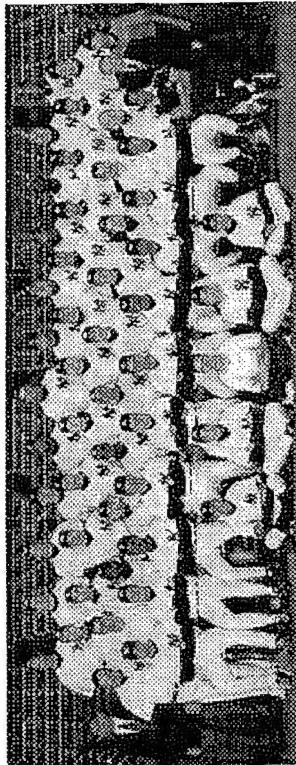
**Jerry DeMuro**  
**Vice President & General Manager**  
**GTE Government Systems Corporation**  
**April 19, 1999**



## What is a partnership?

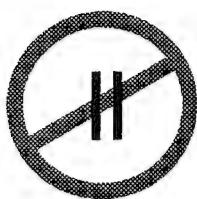


= “a player on the same side  
or team as another”



= “common objectives”  
= “win/win situations”

All opportunities to partner are not equal



### New start program partnerships

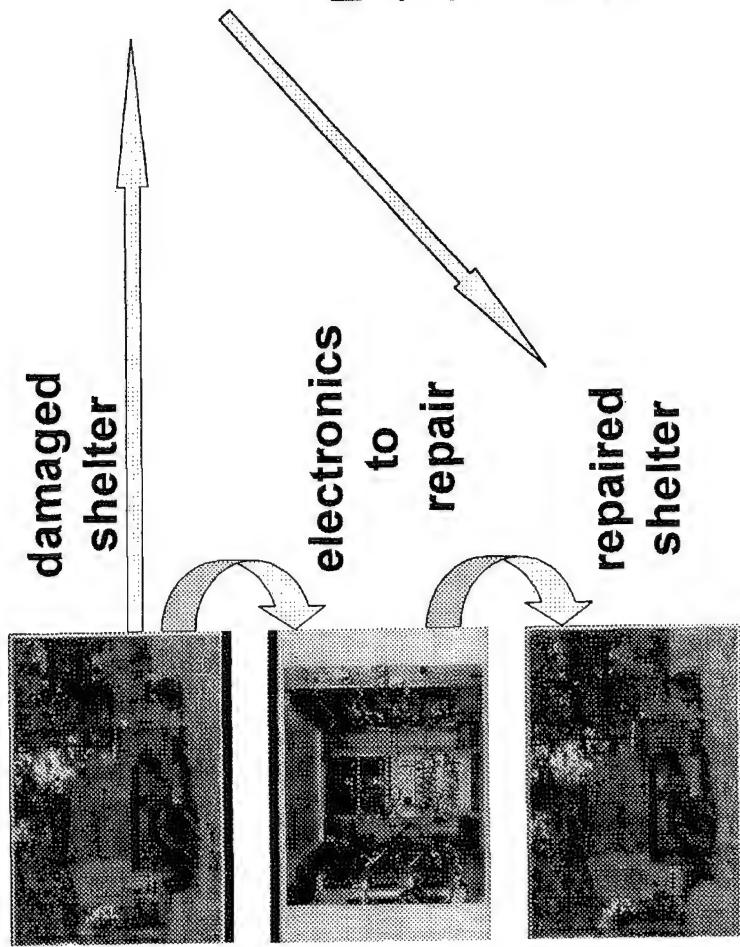
- Mutual opportunity to grow
- Work together on political support
- The only loss is opportunity
- Existing infrastructure
- Competing interests
- The focus shifts to competition



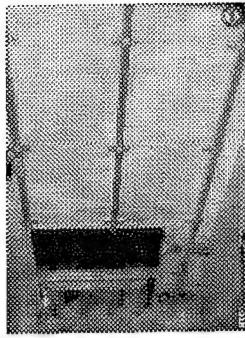
# MSE Overhaul in Europe

“A legacy system support  
partnership that works”

GTE



Pirmasens



shelter  
to  
repair

Reasons to cooperate:

- Represented “new work”
- GTE lacked facilities to handle shelters
- Environmental issues for GTE
- Pirmasens had capability and capacity

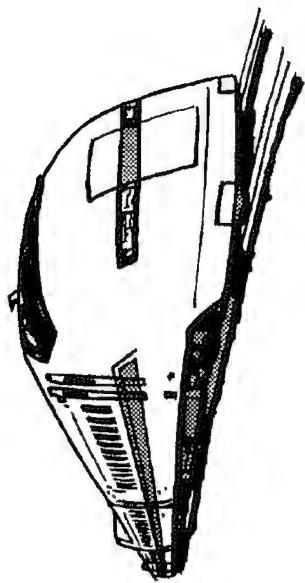
**GTE** Government Systems

**CSD**  
COMMUNICATION  
SYSTEMS DIVISION

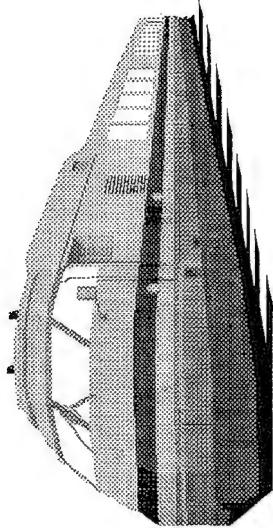
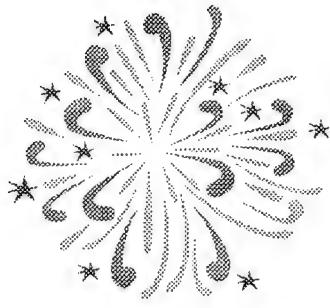
# Other experiences with legacy system support partnerships

“More competition than cooperation”

Contractor



Government

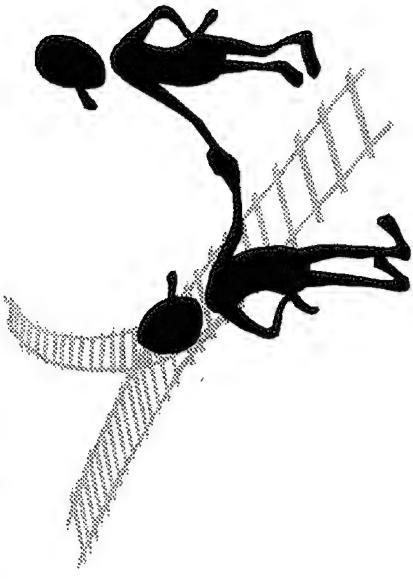


- Workforce Retention
- Excess Capacity
- Funding
- Data Issues

# System support partnerships

**“Track to success”**

- Make system support partnering a part of the integrated acquisition strategy
- Eliminate legal and administrative barriers
- Win/win relationship



# **ARMY MODERNIZATION**

**MG Joseph M. Cosumano, Jr.**  
Assistant Deputy Chief of Staff for  
Operations and Plans (Force Development)



DAMO-FD

## Agenda

- The Environment
- The Change Process
- Modernization Plan



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## The World Has Changed

### Cold War

- Overarching US-USSR global struggle
- Direct threat to US survival, primacy
- Stable strategic balance
- European focused
- Less pervasive media



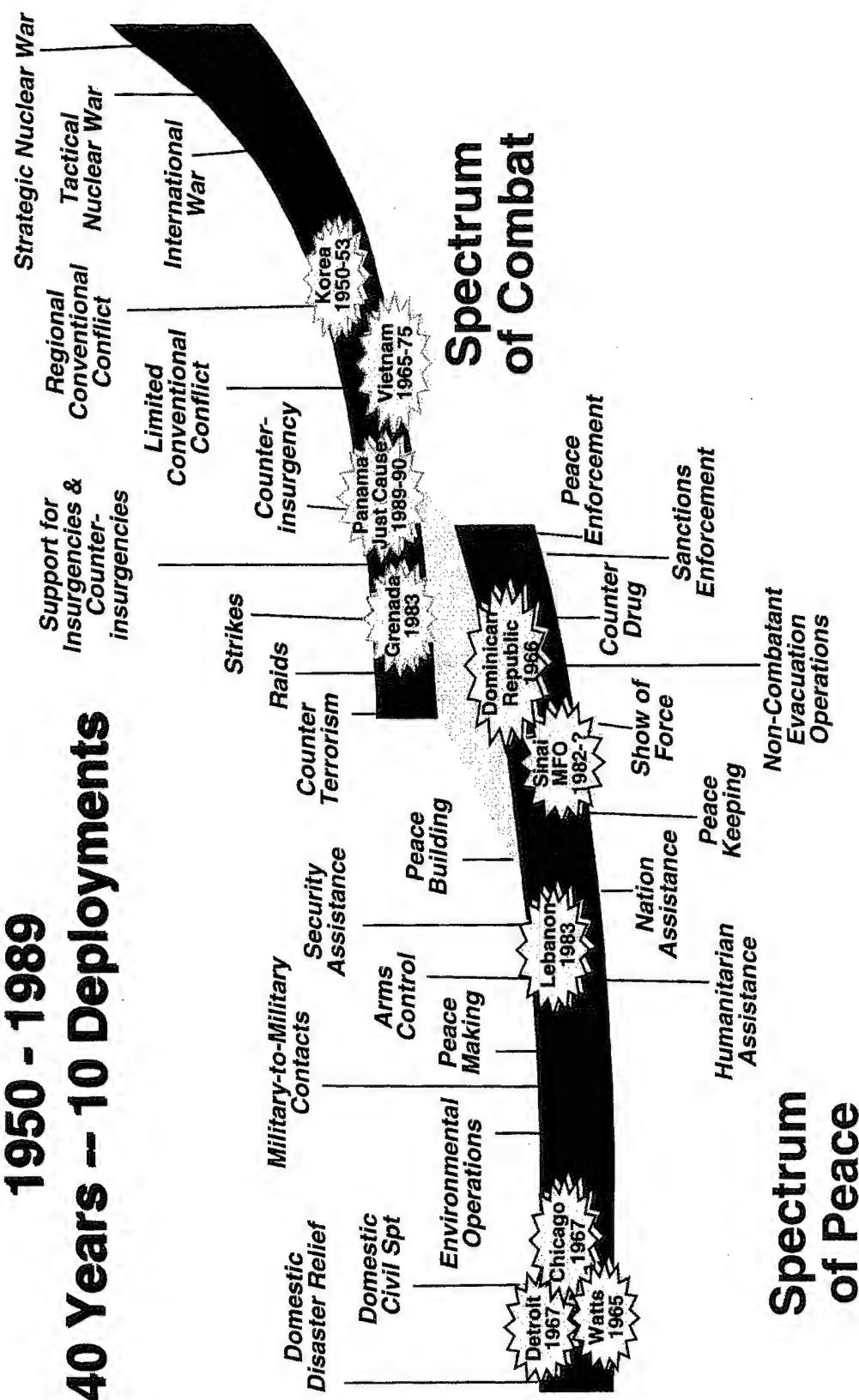
- Asymmetric threats & challenges
- Simultaneous missions across the spectrum of crisis
  - Many possible combat contingencies
  - "CNN" factor

...Suggesting Increased Demand  
for Land Forces.



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## 1950 - 1989 40 Years - 10 Deployments

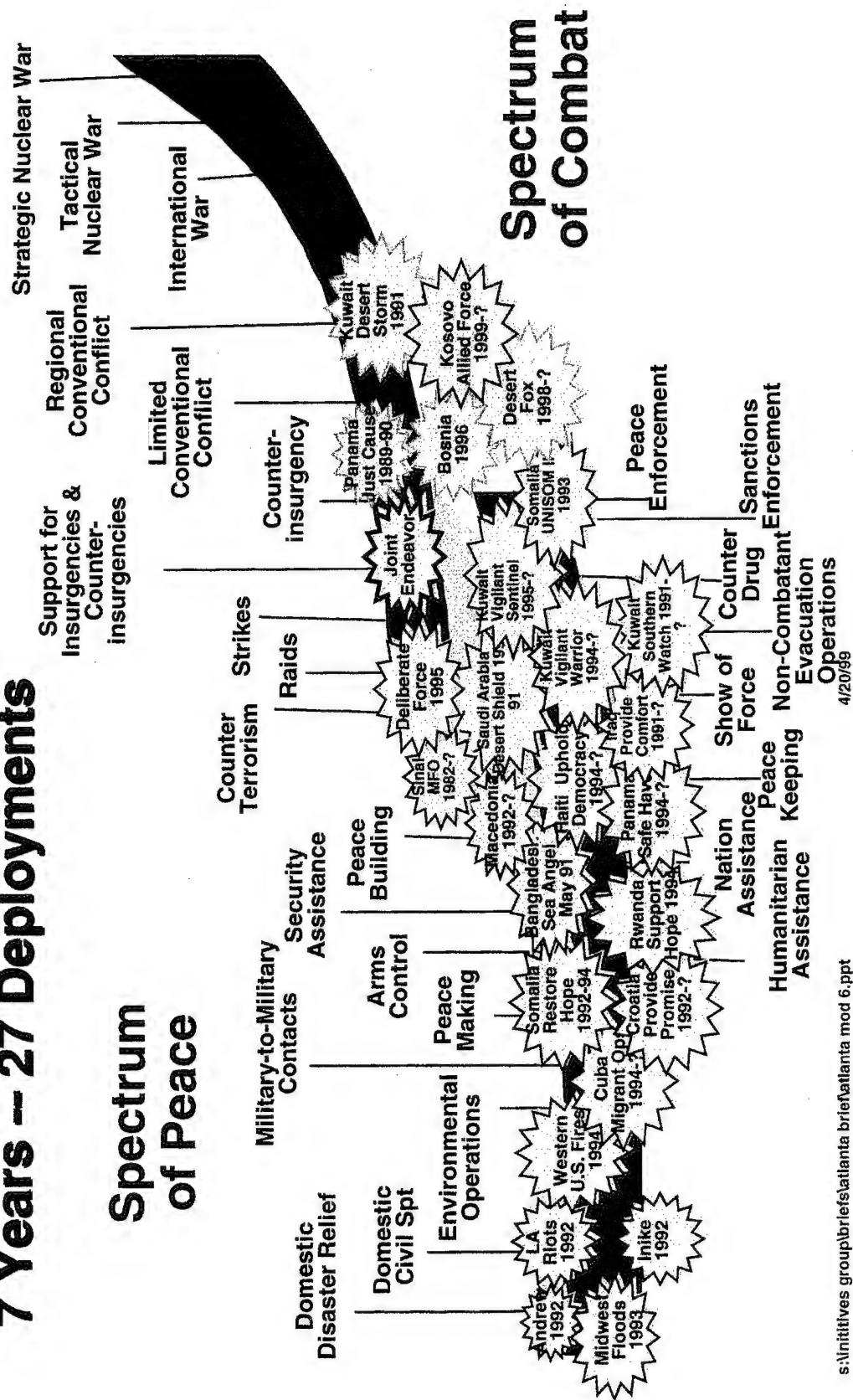




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## **1990 - Current 7 Years - 27 Deployments**

**Spectrum  
of Peace**





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## The Army Has Changed too!

TODAY



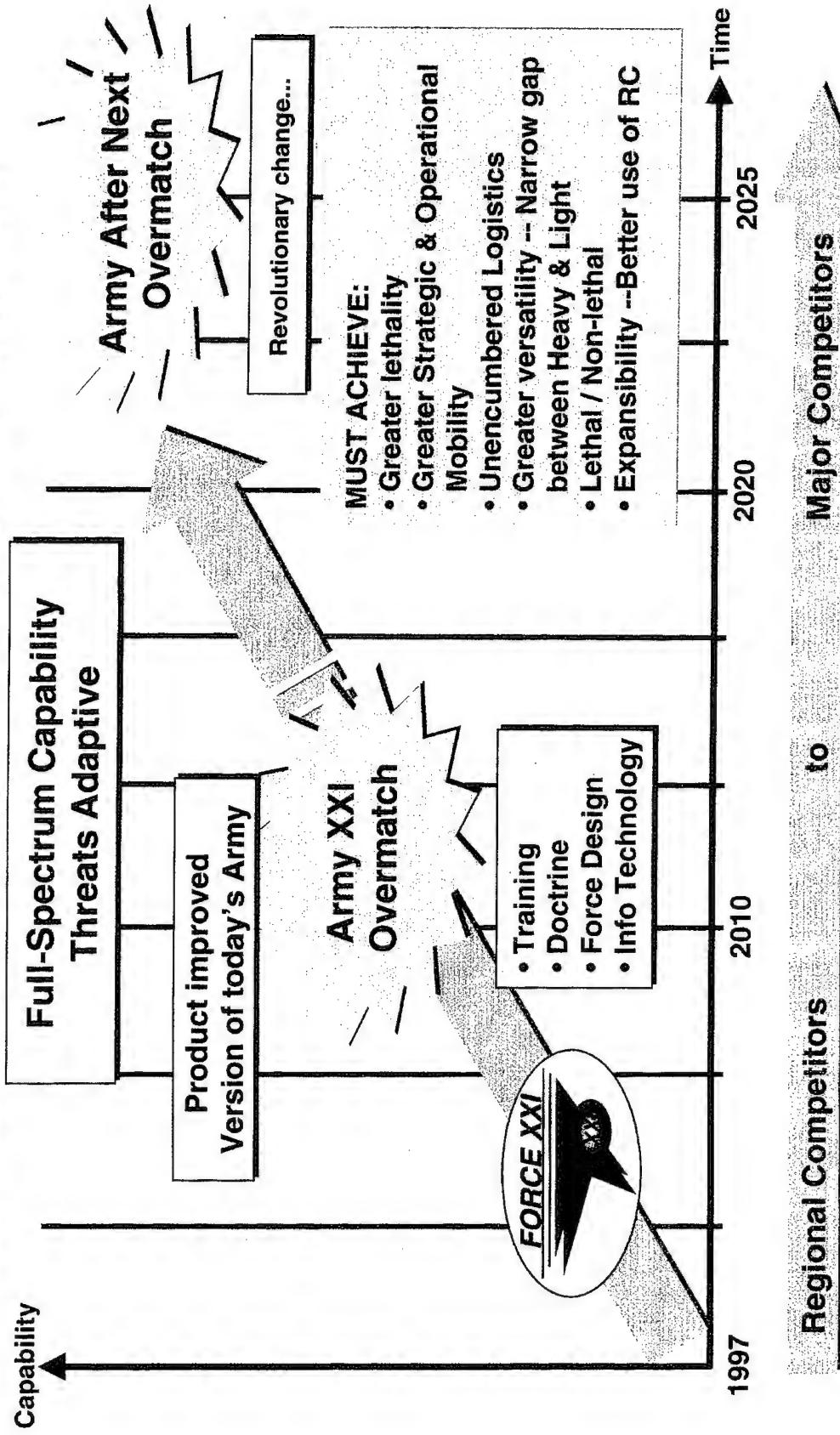
- Forward Deployed
- CONUS-Based
- Threat-based
- Power Projection
- 20th Century Technology
- Longer Planning Horizon
- Broad Mission Range
- Knowledge and Capabilities Based
- Constrained Resources
- Shorter Planning Horizon
- Flexible Strategy
- 21st Century Technology
- Lethal and Survivable
- Real-time Situational Awareness
- Surface to Space Continuum
- Split-Based Interdependent Operations
- Hybrid Forces

And Must Continue to Change



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## We Have a Change Process - Force XXI

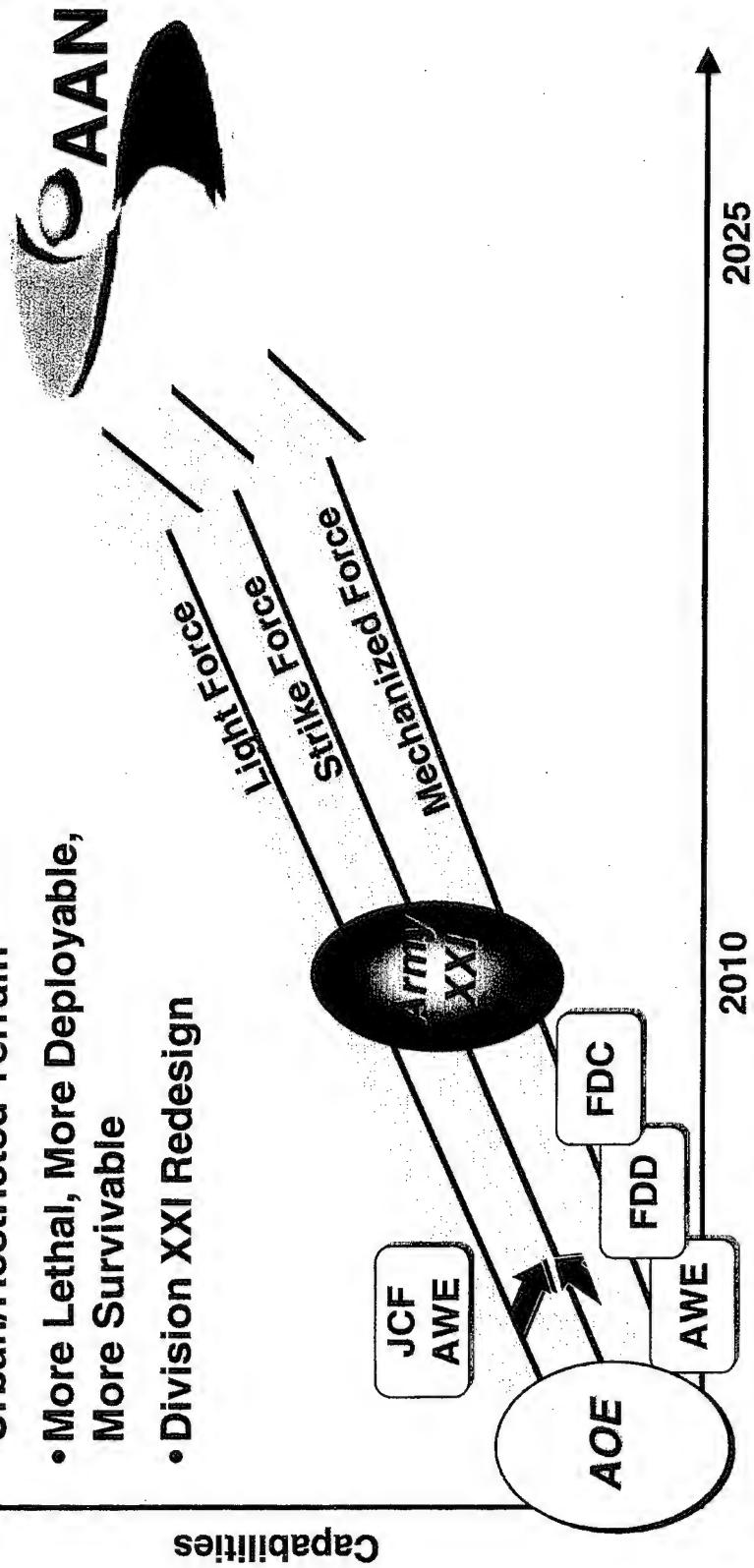




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## Army Experimentation Campaign Plan

- Forced Entry, Quick Reaction, Urban/Restricted Terrain
- More Lethal, More Deployable, More Survivable
- Division XXI Redesign



***Modernized Doctrine, Organizations, Materiel and Leader Development***

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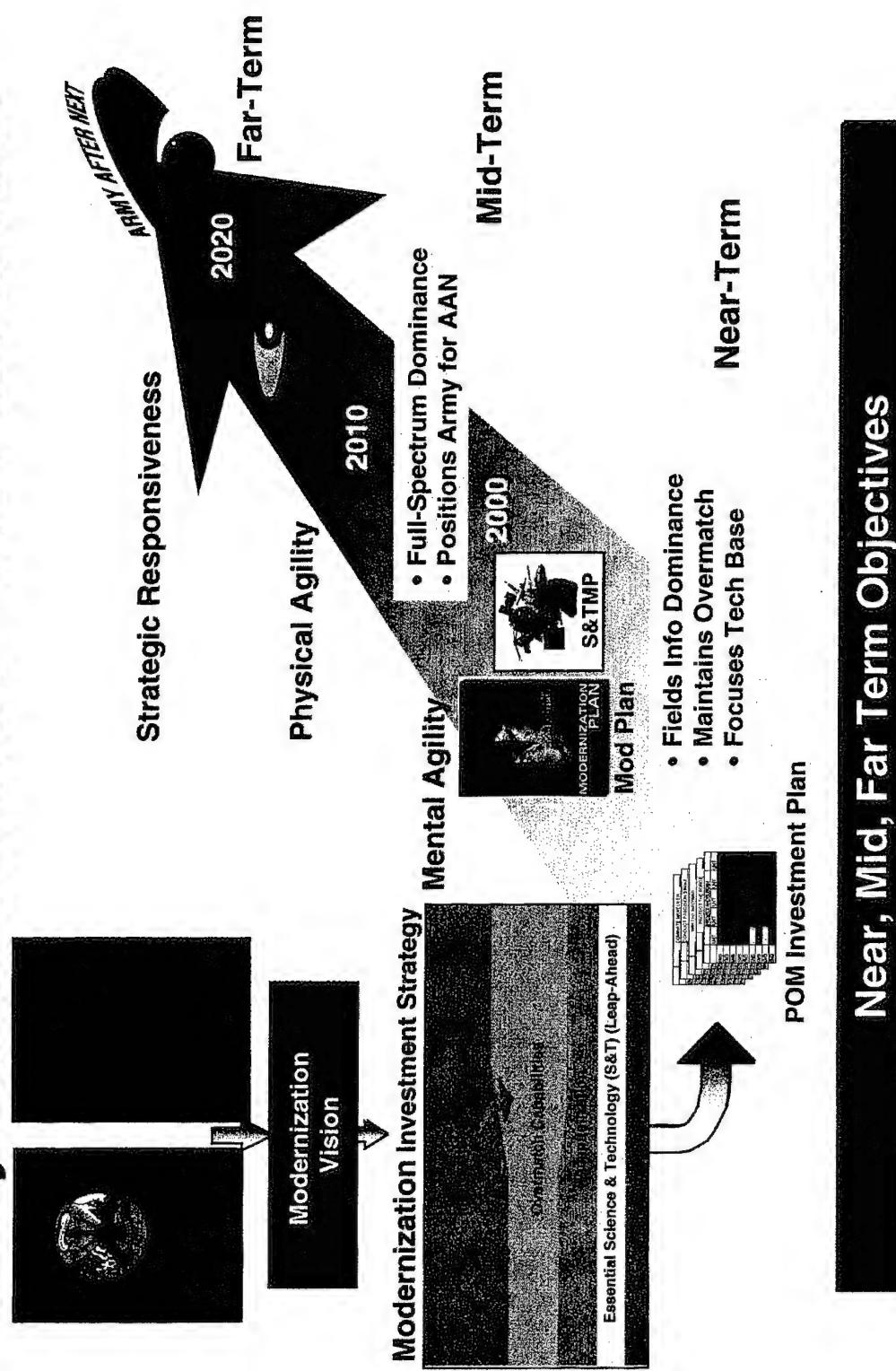
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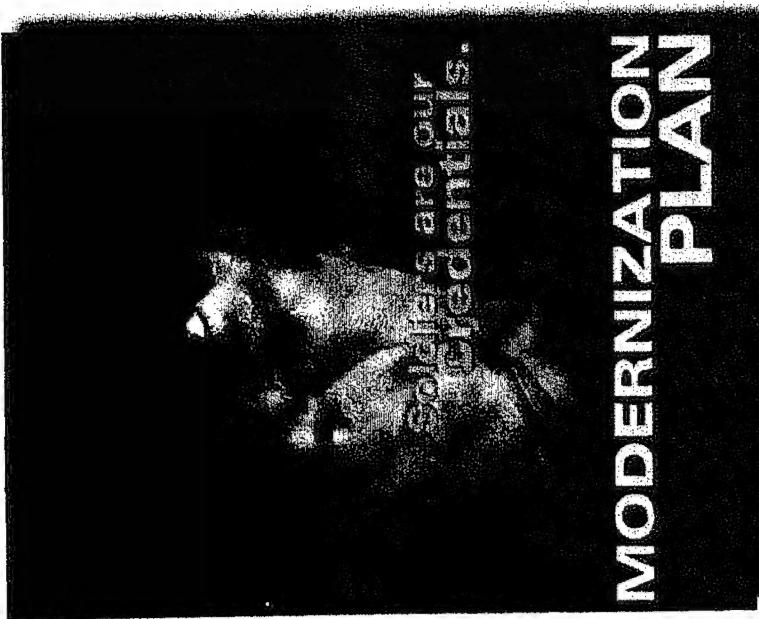
## Army Transformation--The Path to AAN





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## We Have a Modernization Plan



### Goals

- Digitize the Army
- Maintain Combat Overmatch
- Sustain essential R&D,  
Focus S&T on Leap-ahead  
Technology
- Recapitalize the Force
- Ensure AC/RC Interoperability

### To Continue Change Over Time



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## 1999 Modernization Plan Messages

- Moving from Industrial Age to Information Age
- Focusing on Brigade Sets
- One Team, One Fight, One Future
- Resource Constrained Environment -- Balance is Key
- Recapitalize to Modernize



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## We Have an Investment Strategy

### Overmatch Capabilities

### Essential Science & Technology (S&T) (Leap-Ahead)

- Priority on Info Dominance
- Maintain combat overmatch
- Focus S&T on leap-ahead technology
- Fund required recapitalization

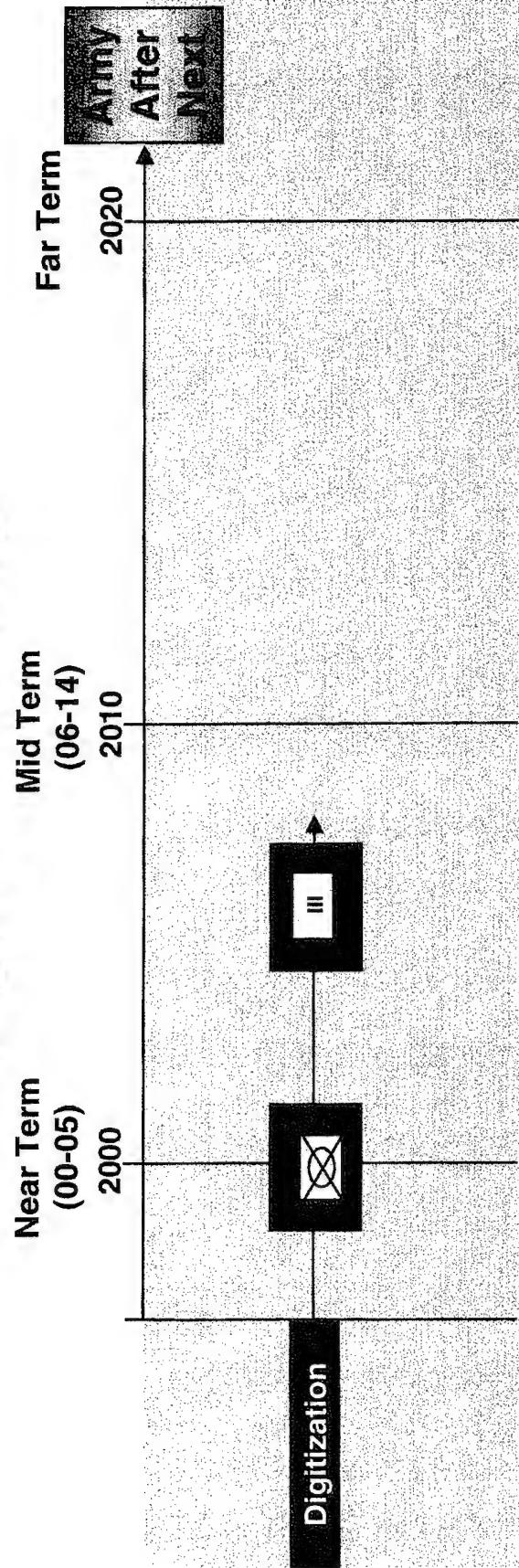
- Continue emphasis on Information Dominance

- Combat capabilities and Information Dominance embedded



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## Digitize The Army

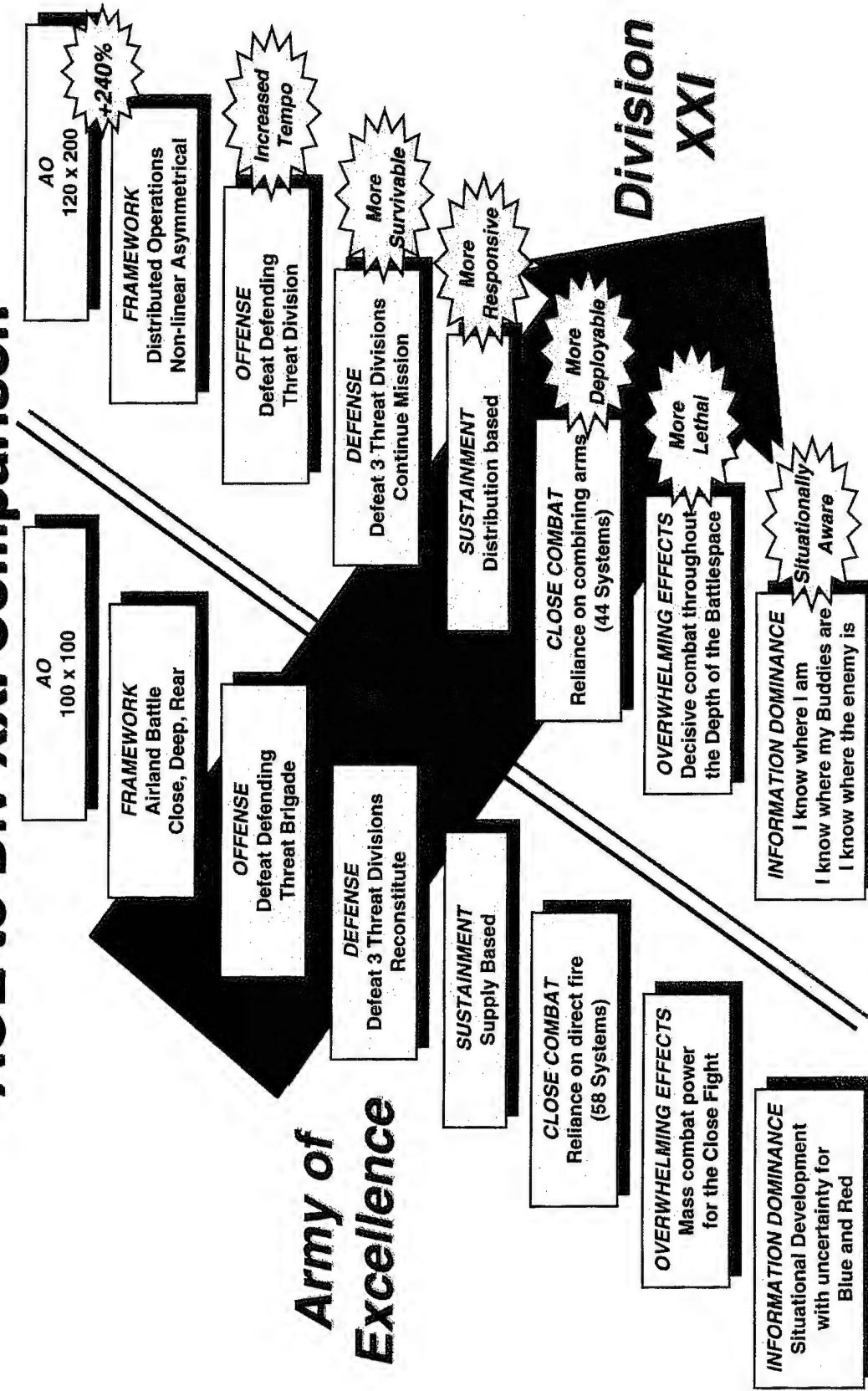


- First Digitized Division by 2000 (4th Infantry Division, Fort Hood, TX)
- First Digitized Corps by 2004 (III Corps, Fort Hood, TX)
- Provides situational awareness
  - Where is the enemy?
  - Where are my buddies?
  - Where am I?
- Uses the Army Experimentation Campaign Plan to determine our azimuth



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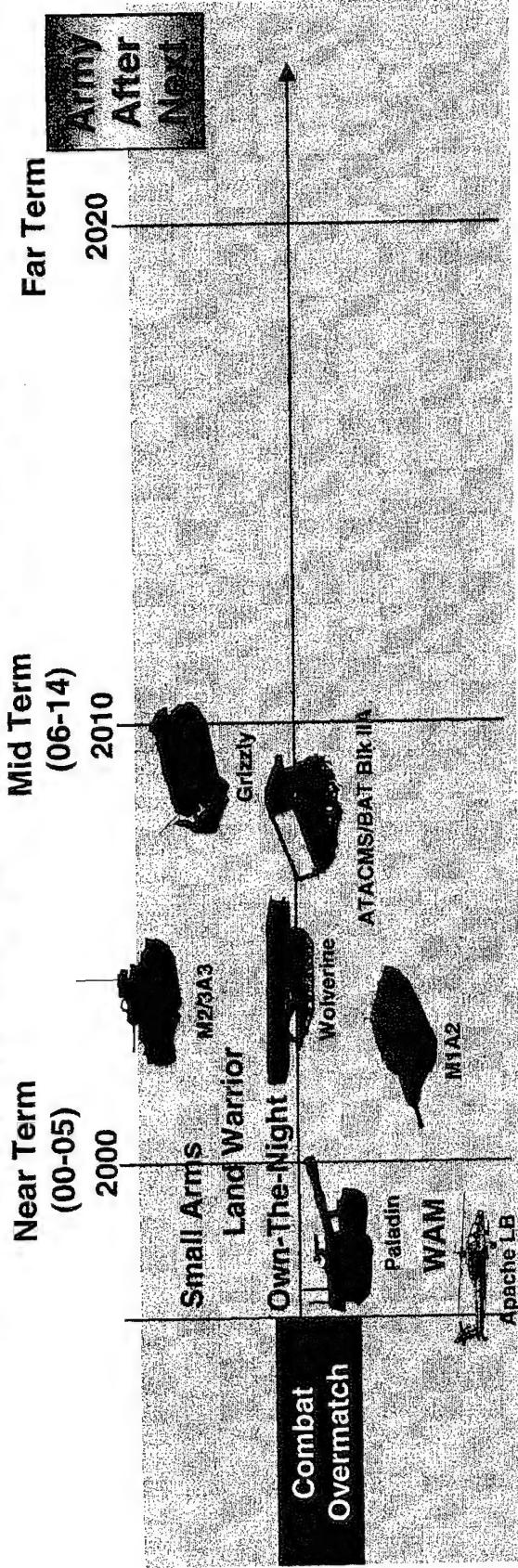
## AOE to Div XXI Comparison





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## Maintain Combat Overmatch



- Have ground combat overmatch
- Retain this capability through P3!
- Force structure changes and redesign
- Link to R&D initiatives to insert new technologies



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## Overmatch

"Things that can make a difference now."

*Primary focus on early entry and light forces*

### Lethality

- Digitization
- HIMARS: Rapidly deployable overmatching fire support
- M4 Carbine: Light-weight, adaptable small arms
- TOW2B Fire & Forget: Low-cost, low-risk lethality hedge against TOW2B obsolescence

### Survivability

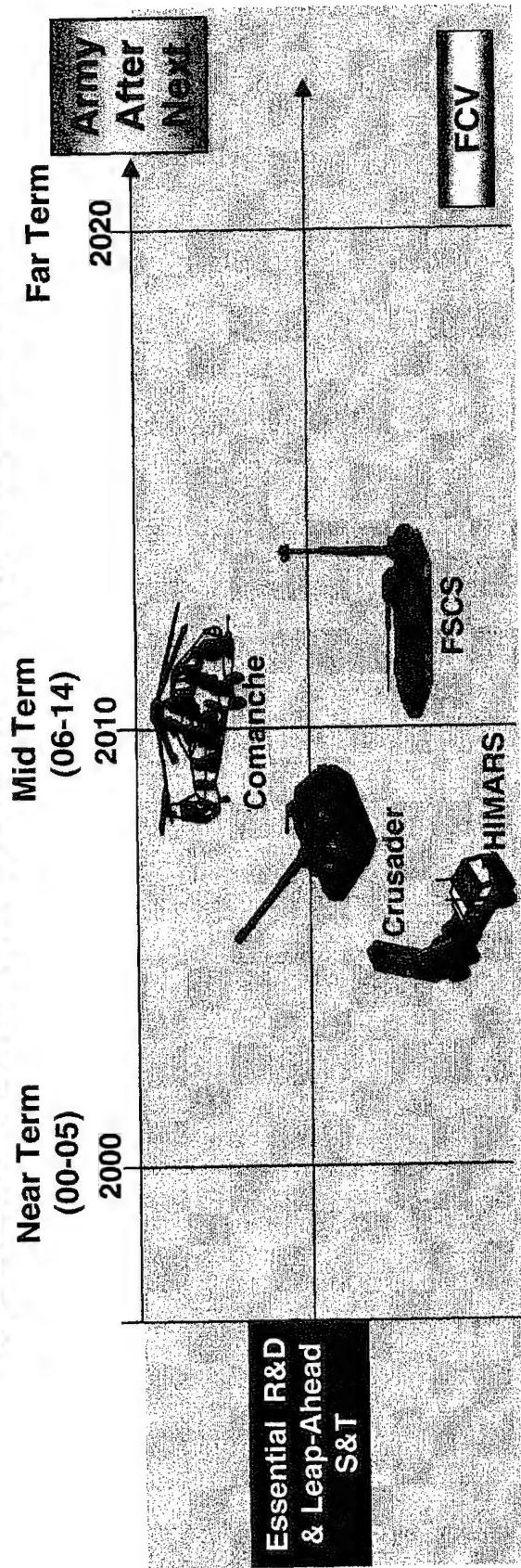
- Soldier System Enhancements:
  - Body armor: Survivability enhancement
  - Soldier Support items that meet basic soldier needs for con ops
- Night vision/thermal sights: Gives soldiers night-fight overmatch

**Small dollars . . . large impact for the Soldier**



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## Sustain Essential R&D & Leap-Ahead S&T



- Focus Science and Technology (S&T) on Next Generation Capabilities.

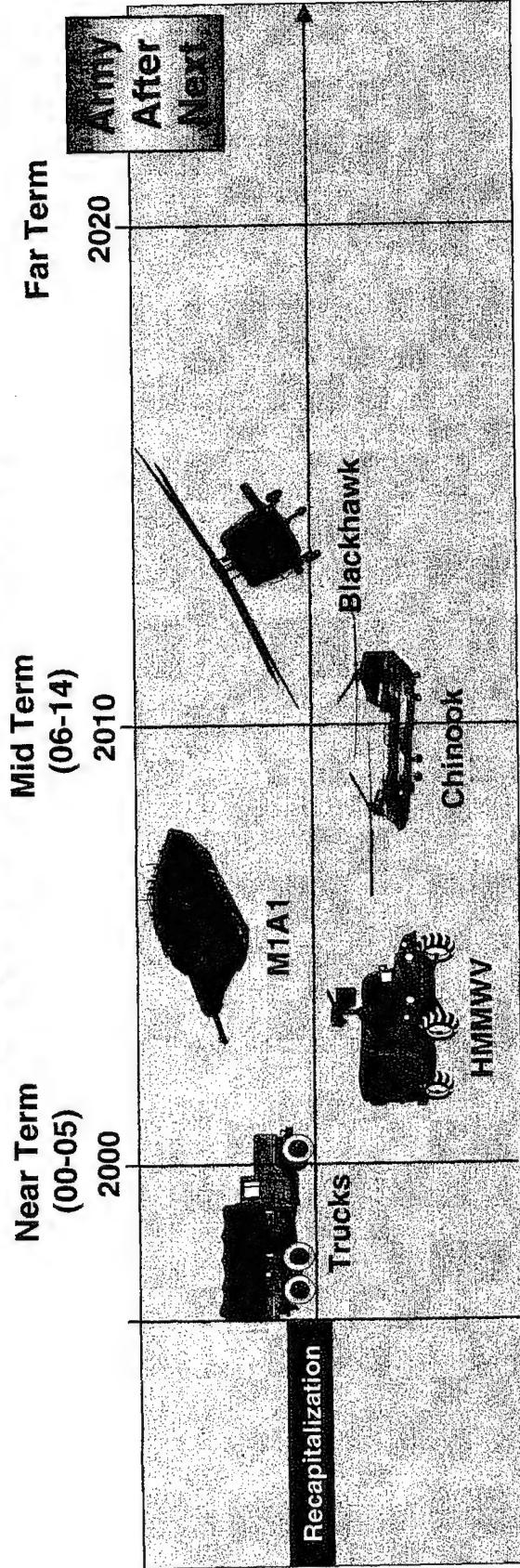
- Lighter.
- More Mobile.
- More Supportable.

- Maintain technical overmatch in the near and mid terms.



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## Recapitalize The Force



- Increased fleet age and operations and sustainment cost.

- Legacy systems will be in the AAN inventory.

- Wheeled Fleet
  - Abrams
  - Bradley
  - MLRS
- CH47
- Blackhawk



## \$1-2B Needed Each Year to Recapitalize to Modernize

### Trucks

Costs \$1.3B Per Year To  
maintain Trucks Age at 13.5  
Years



### M1A1 Tank

Engine Mean Time  
Between Failure Can  
Be Increased By  
300%



### CH47

Improved Cargo  
Helicopter modification  
Will Reduce Costs By  
\$2.6B



### UH-60

Flying Hour Cost  
Can Be Decreased  
By 1/3



- Operation & Sustainment Costs take \$ From Modernization
- Can Not Continue to Defer Paying on the Principal



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## Recapitalization

“Steps with big future payoff.”

*Primary focus on mechanized forces and aviation*

### ■ Mechanized Force

- Improved recovery vehicle
- Abrams/Bradley power pack replacement
- Modernize M113 Family of vehicles to A3 variant

### ■ Aviation Fleet

- CH-47 Upgrades
- UH-1 Sustainment and Light Utility Helicopter
- UH-60 SLEP and UH60Q MEDEVAC
- UH60 for RC

**Reduces O&S costs and meets long-term reinvestment needs.**

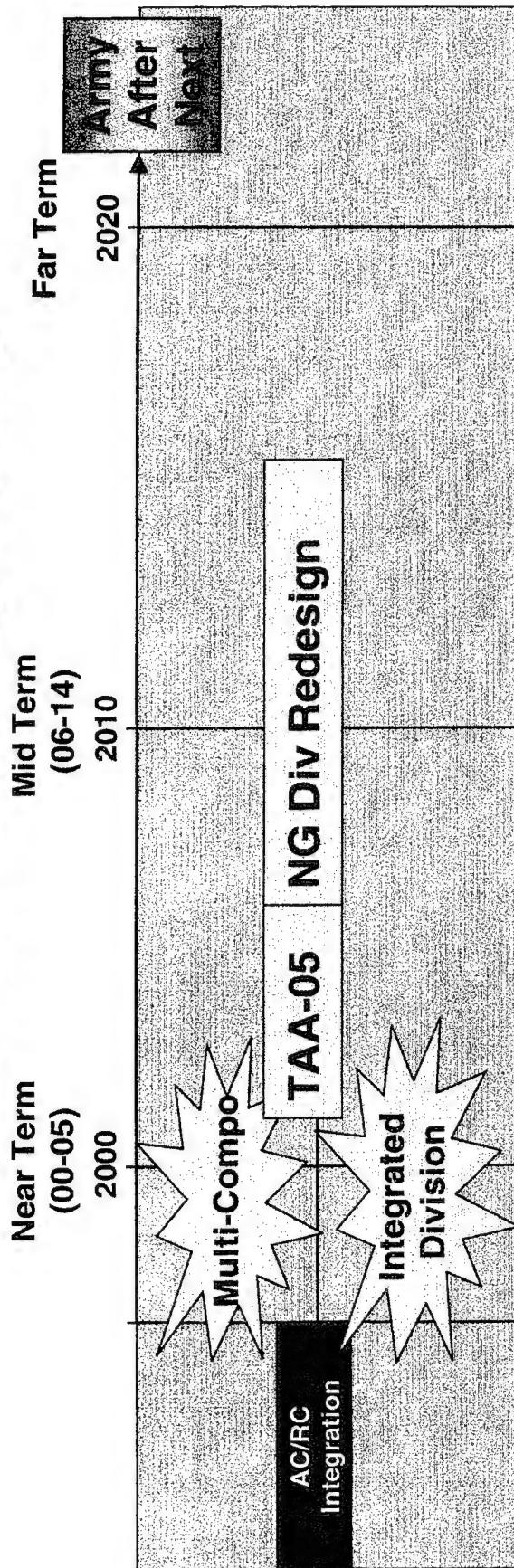
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## **Ensure AC/RC Interoperability**



- Building a seamless force for the future.
  - RC modernized along with their Force Package.
  - Initiatives:
    - Multi-compo units.
    - Integrated Divisions
    - Army National Guard Division Redesign.
    - Division Teaming



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## Modernization Of the Reserve Component

### A Success Story...

- Provided over \$21.5 Billion between FY 92-99\*

- Programmed over \$7B in FY00-05 for Reserve Component Modernization

- Reserve Component Modernization at highest level since 1962

\* Current Dollars



Air Defense



Combat Vehicles



Attack Helicopters



CSS Systems



Fire Support

General Support Avn

*Programmed AC & RC Force Structure Reductions Helping to pay the bill*

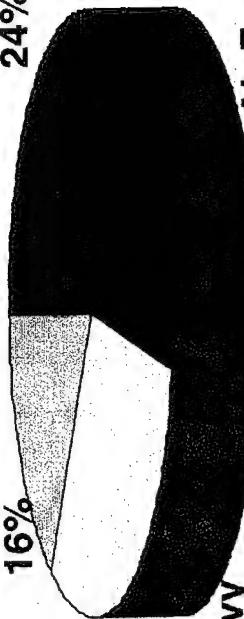


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## Where The Money Comes From FY00 BUDGET

DoD TOA = \$267.1 B

Defense Wide  
\$43.5 B  
16%

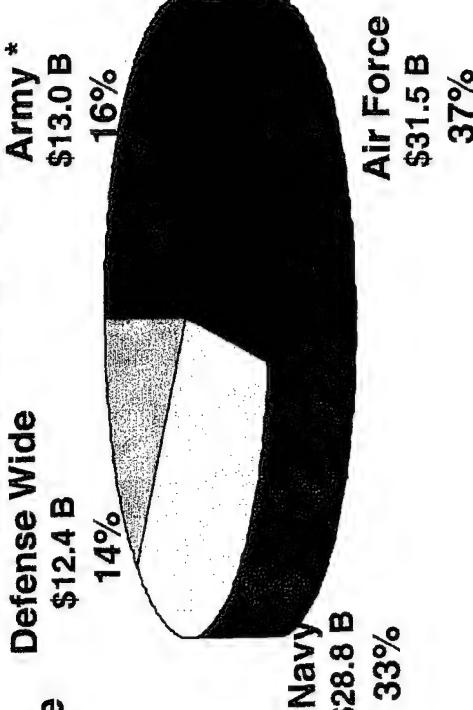


DoD RDA TOA = \$86.8 B

Defense Wide  
\$12.4 B  
14%

Air Force  
\$77.4 B  
29%

Navy  
\$28.8 B  
33%

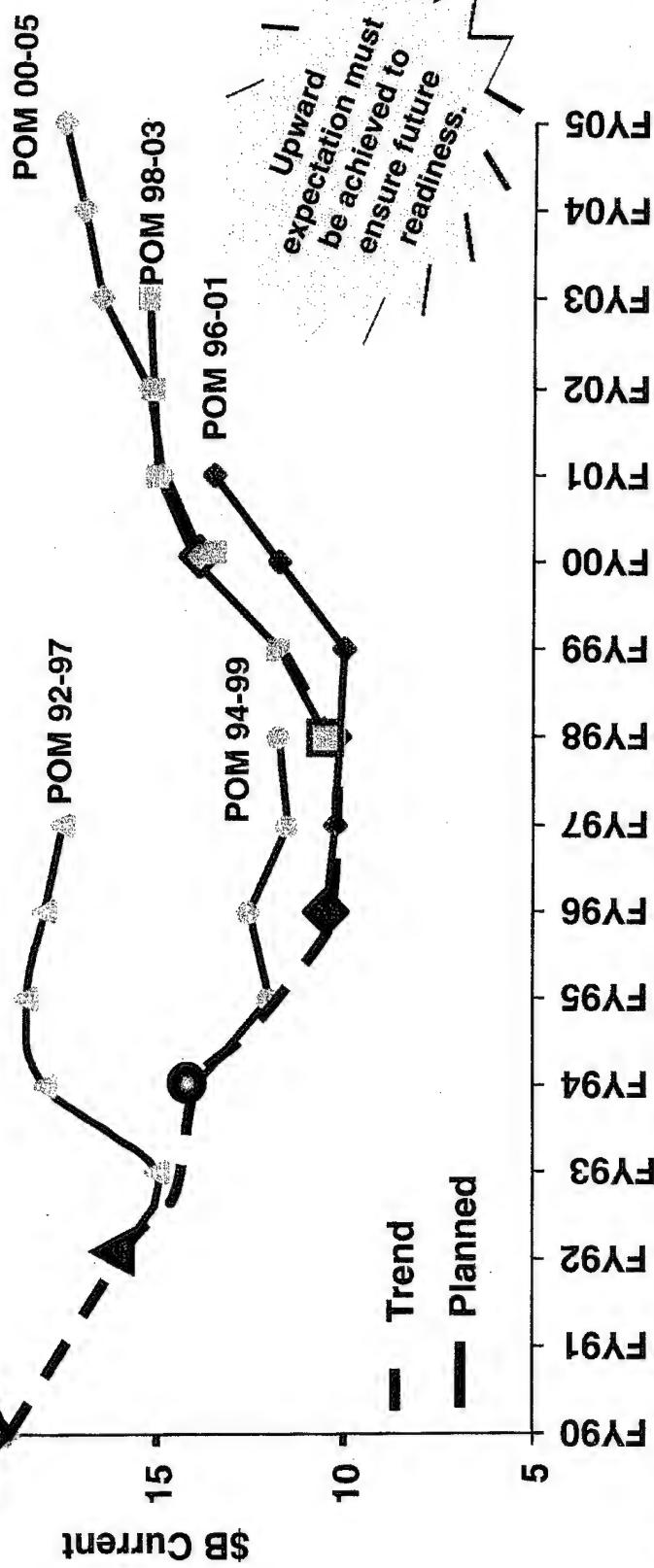


\* Army RDA does not include Chem Demil



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## Resource Constrained Environment



We Need \$2-3B/Year to meet our priority modernization needs

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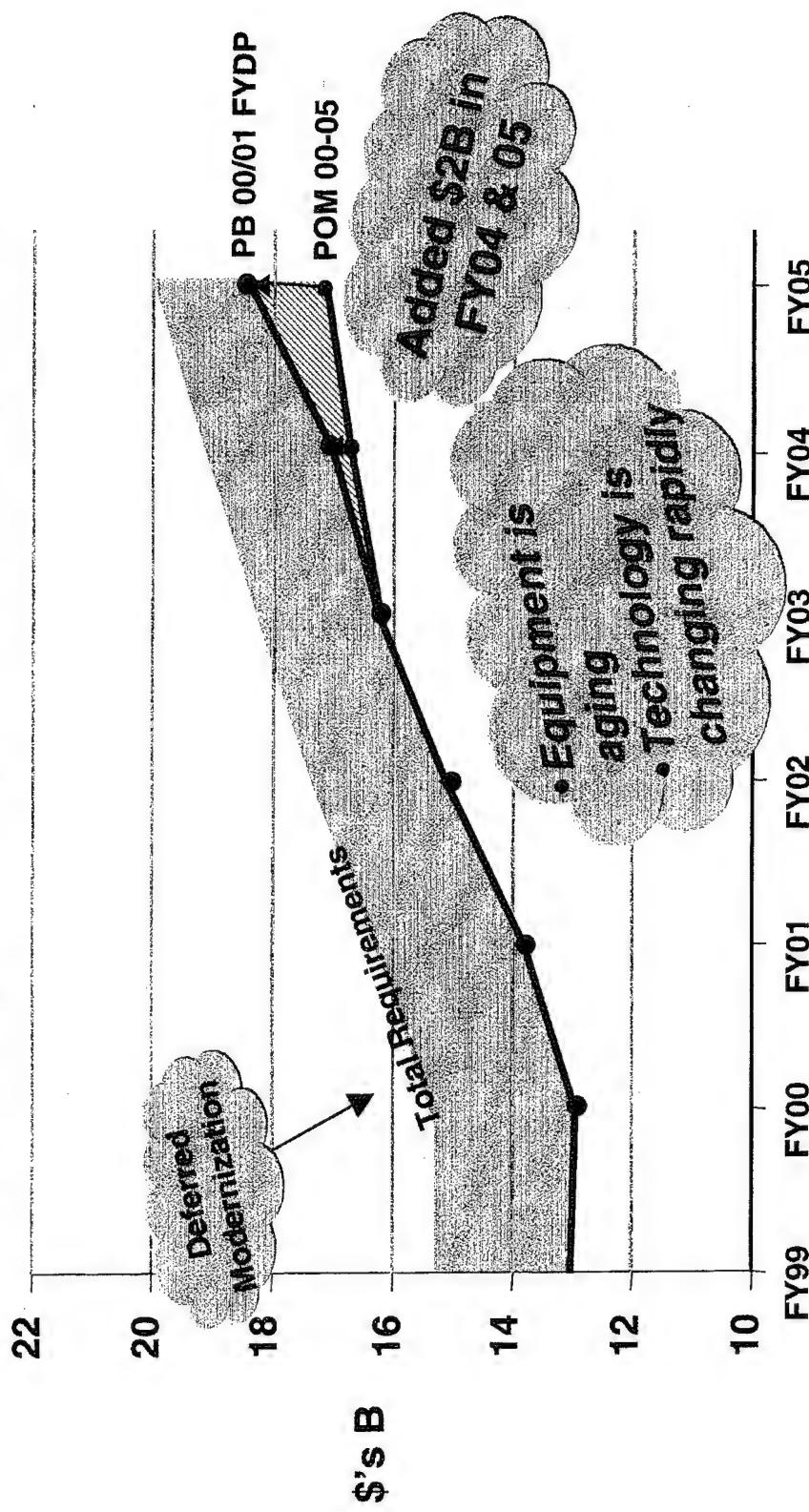
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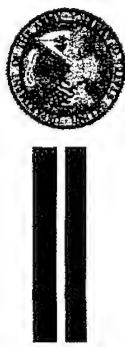
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## Resource Constrained Environment





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## Army Challenges

- Remain trained and ready.
- Transform the Army through Force XXI process.
- Ensure both current and future readiness in an era constrained resources.
- Reduce risk in the near and far term.
  - Training
  - Use of Total force



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## Army Has Changed

**The Army has changed to meet the nation's changing needs.**

**We are well along the pathway.**

**Continuing to change even while performing missions around the world.**

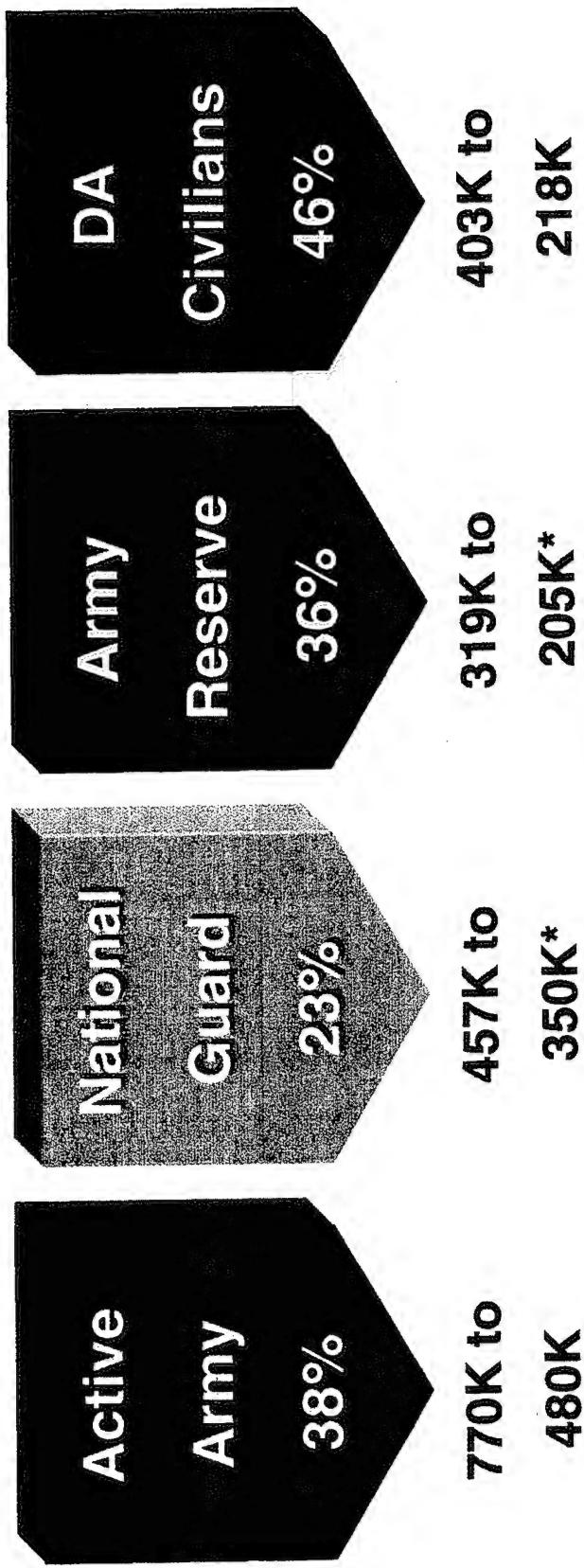
**But Resources are still Needed . . .**

# One Team, One Fight, One Future

## Force Structure Reductions

- The QDR directed reduction in both End strength and Force Structure

Personnel Reductions from 1989-2000



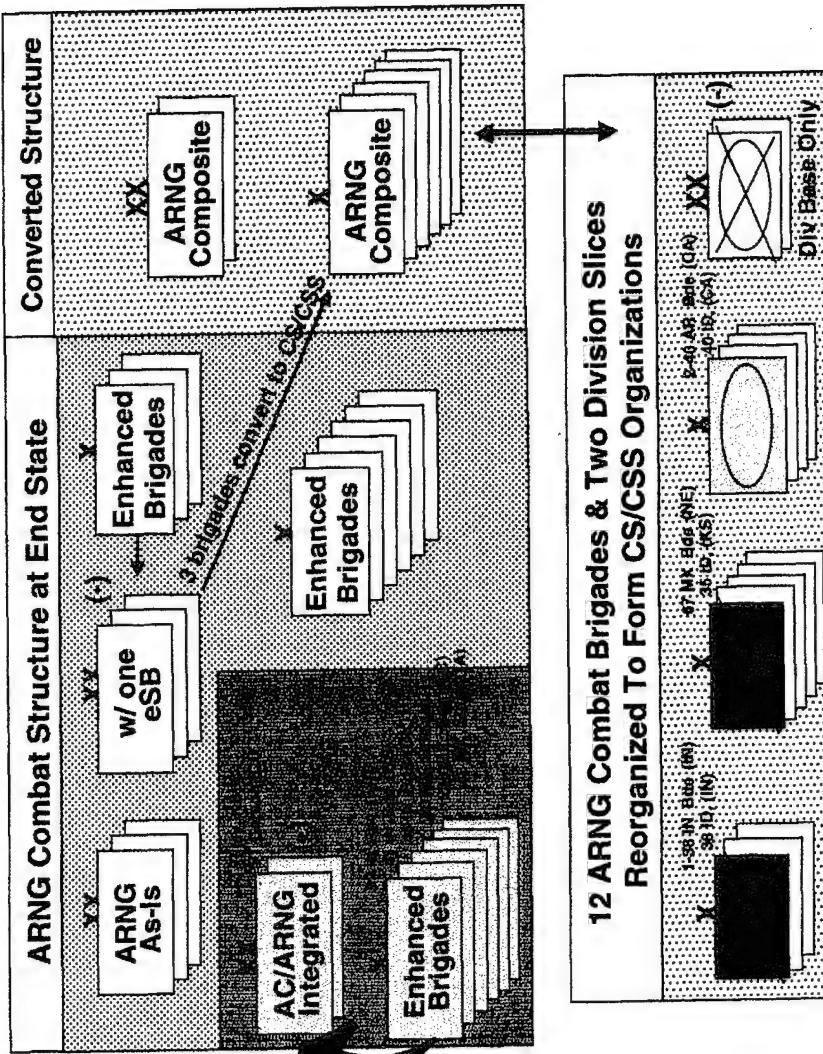
\* 25K of RC reduction TBD

*Projected Savings Already Reinvested in Modernization & Readiness*

# ADRS Implementation

- 3 divisions remain in current configuration.
- 3 divisions with 1 enhanced Separate Brigade (the eSB displaces a divisional maneuver brigade and becomes the third brigade in the division).
- 2 ARNG composite divisions (formed by reconfiguring 2 existing ARNG divisions).
- 6 stand alone composite brigades. The brigades are formed from the conversion of initial six brigades to convert.

- 6 stand alone eSBs.
- 6 eSB's as part of the two AC/ARNG Integrated Divisions.



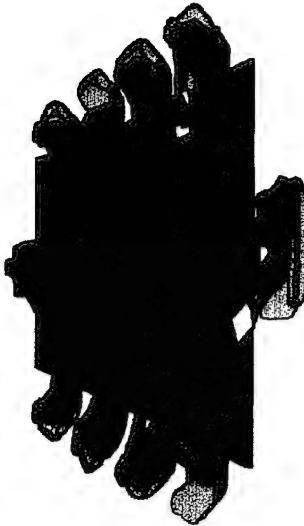
# Multi-Compo



## A readiness partnership for America's Army

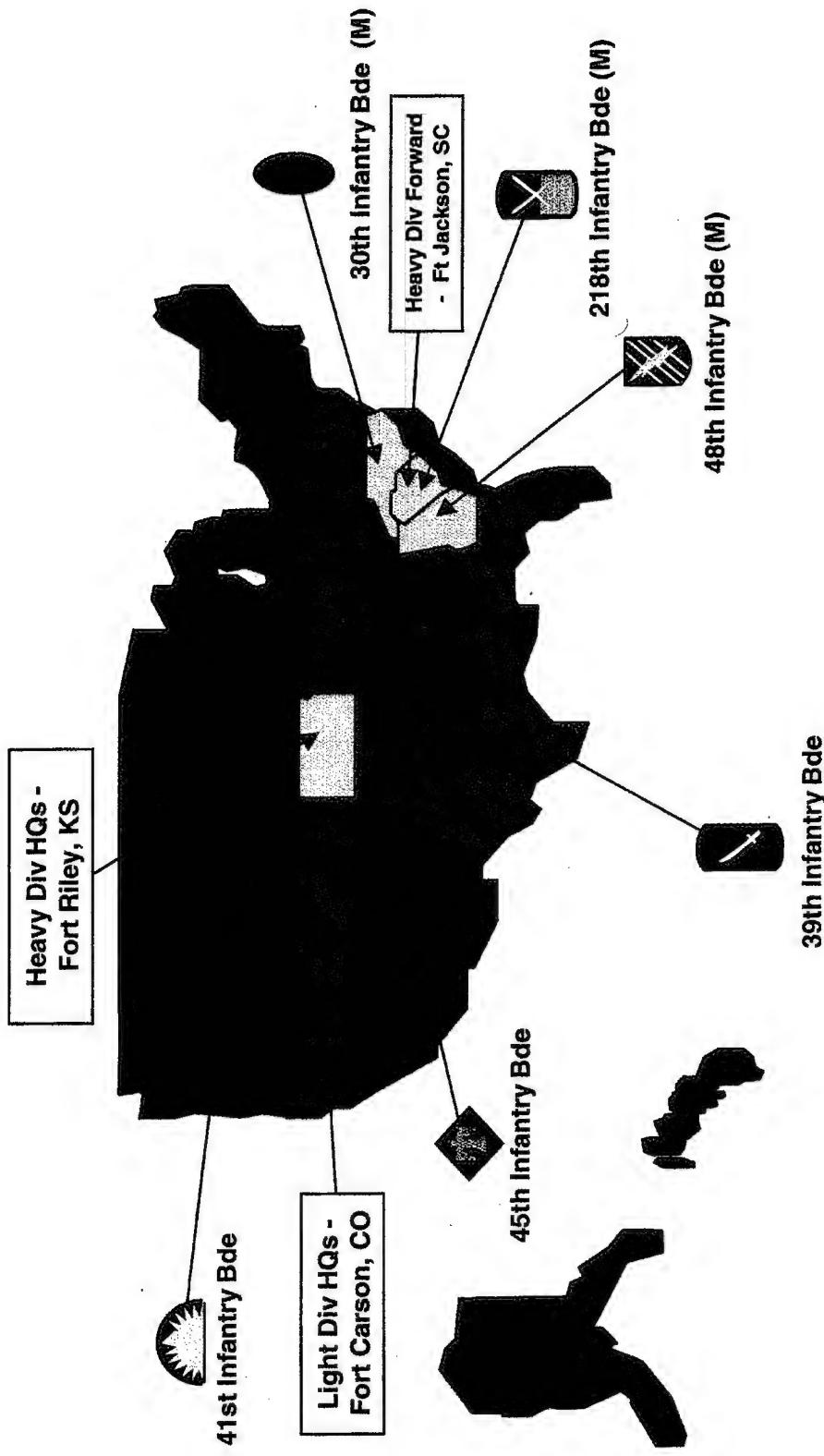
### INITIAL UNITS

- **AC flag with ARNG element(s) :**
  - 1-159th Command Aviation BN
  - 46th Engineer BN
  - 32d Army Air & Missile Defense CMD
- **AC flag with USAR element(s) :**
  - 122d Military Police DET
  - 673d Dental CO
- **ARNG flag with AC element(s) :**
  - HHC, 142d Signal BDE
  - 1-171st Combat Support Aviation BN
- **USAR flag with AC element(s) :**
  - 304th Corps Materiel Management CTR
  - HHC, 3rd Medical CMD
- **AC flag with both ARNG & USAR element(s) :**
  - Army Service Component CMD South
  - 52d Engineer BN
  - HHC, 93d Signal BDE



Effective date for each of the initial units is  
16 October 1999, except for the 32d Army  
Air & Missile Defense CMD, which has an  
effective date of 16 October 1998.

## Integrated Division Headquarters and eSB Locations



# *The Army's Future*

## DIVISION XXI

### **SEAMLESS INTEGRATION**

- TOE
  - 512 RC Positions throughout the Division
  - 255 USAR 257 ARNG
  - Enhanced cohesion
  - Train as you fight

COMMAND AND  
CONTROL

- Increased Battlespace Division Rear and Main
  - Command Post collocated Mobile C2 In C2Vs
  - Signal planning done In Div G
  - Added Information Operations

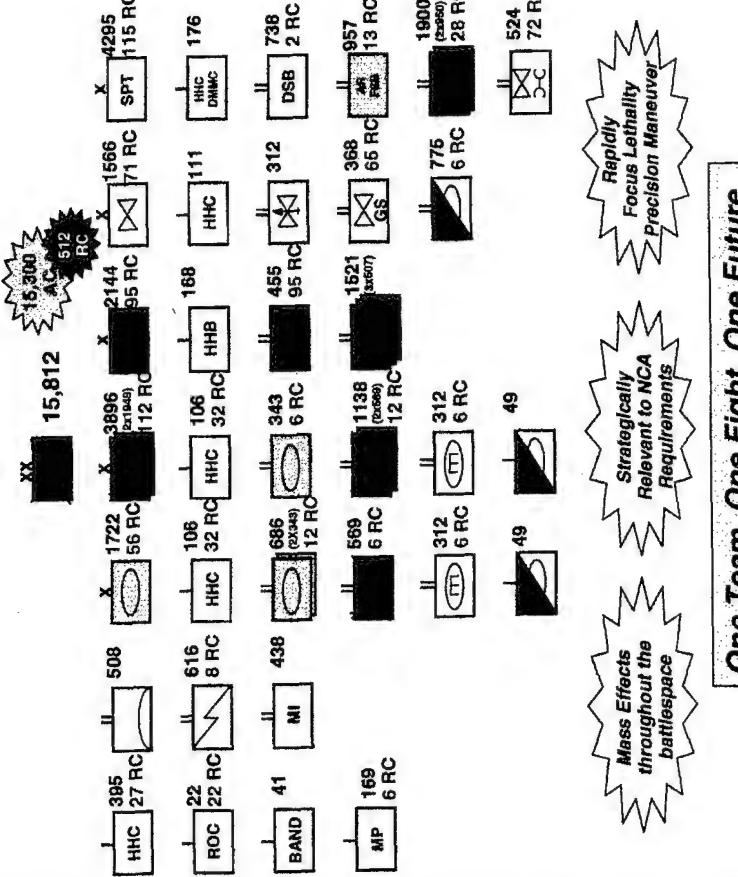
## MANEUVER

- 44 platforms per battalions
  - 4 vehicles / platoon, 3 companies / battalion
  - 3x9 Infantry Platoons
  - Added Brigade Recon Troop to maneuver BDE
  - Standardized mortars organization; 4 tubes per BN
  - Reduced and standardized scores
  - Centralized CSS

EIRE SUPPORT

- Eliminated FS below Co level
  - Created Striker for Organic Recon
  - FA BNs, DS & Brigade Recce Troops
  - Created MLRS / Target Acquisition BN
  - Downsize Paladin crew from 9 to 8
  - Optimized for improved weapons / munitions

*One Team, One Fight, One Future*



**COMBAT SERVICE SUPPORT**  
Centralized CSs for Maneuver

- & Engineer
  - Distribution based supply system
  - Reduced Stocks
  - Self-sustaining for limited period
  - Passbacks to Corps of some functions
  - Implemented enablers (multi-period mechanics, FRS-H, TIGER, etc)

MOBILITY,  
COUNTERMOBILITY,  
SURVIVABILITY  
Removed EN Bde C2, put

- planning cash in division staff
  - Streamlined EN HIC
  - Redesigned EN Co
  - Assumed GRIZZLY savings early
  - NBC Recon in Div Cav Sqdn
  - Centralized CSS

INTELLIGENCE  
and additional Analysis

- Control Team for Aviation or DIVARTY use
  - GSR #2 strength in Avn and Cav Squadron
  - Increased interface with assets external to the Division
  - Added UAV
  - Removed GSR Teams

## AIR DEFENSE ARTILLERY

- Implemented SHORAD system

- Removed MANPADS
  - Added Sentinel Platoon

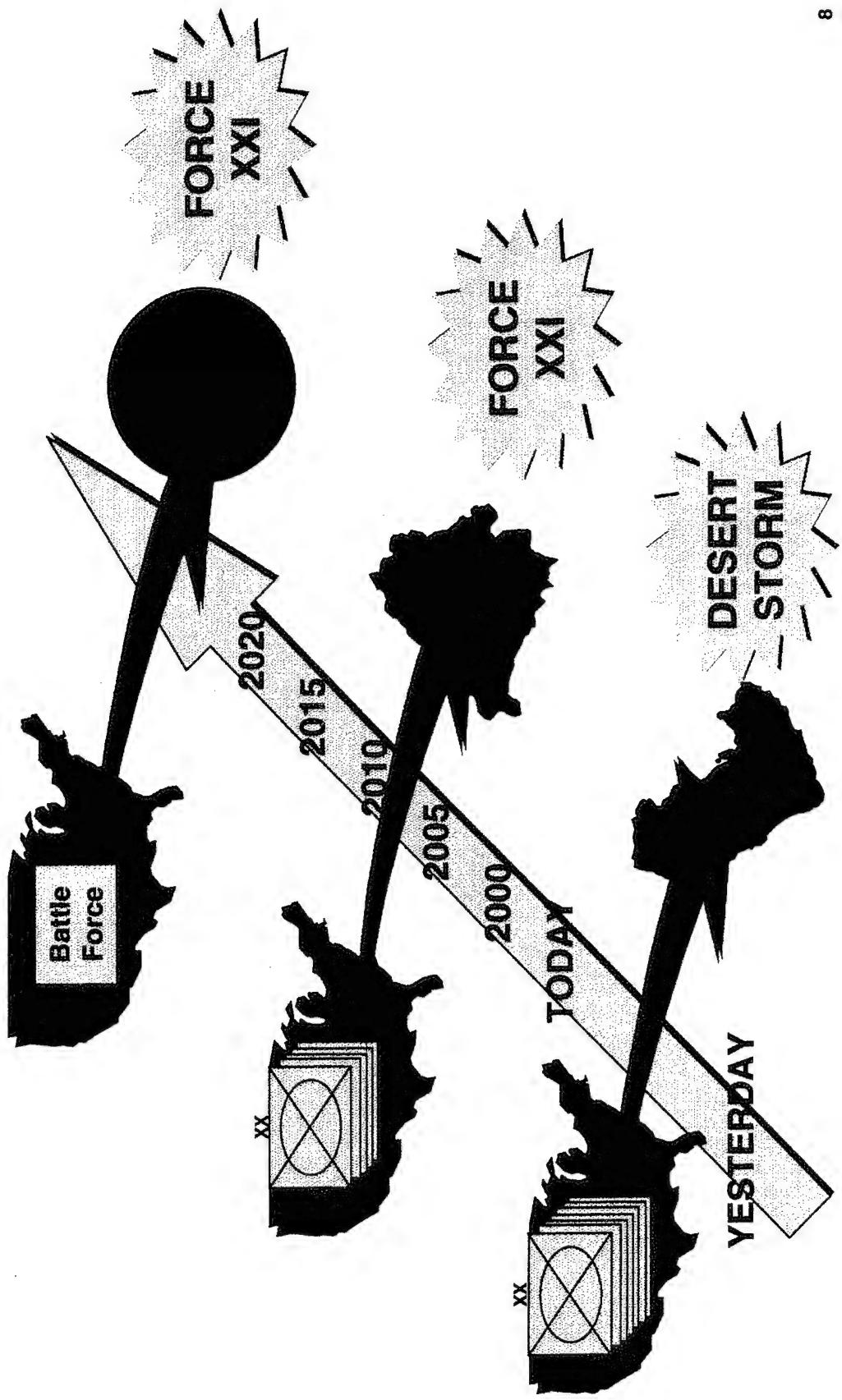
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# Army Deployability Initiatives

- **Airlift:**
  - Procurement of additional C-17s (36 of 120)
  - Complete by FY04
- **Sealift**
  - RO/RO            31 of 36 acquired
  - LMSR            4 of 19 acquired
- **Railcars:**
  - 1226 of 1405 acquired (87%)
  - Complete by FY00
- **Containers:**
  - 3759 of 17983
  - Complete by FY03
- **C2:**
  - Power Projection Automation Support
- **APS:**
  - Total value of APS is \$15B

We're Making Steady Progress

# 21st Century Power Projection



# **NMD**

## **OPERATIONAL CONCEPT**

- Provide homeland defense against proliferating weapons of mass destruction and ballistic missiles.
- Develop and test elements of an initial NMD system within three years FY97-99.
- Conduct integrated system test NLT 1999 to support an informed deployment decision in 2000.
- Following the integrated test and if threat so warrants and a decision to deploy, procure and deploy an NMD system over the following five years (year 2000 through 2005).
- If the decision is not to deploy, continue enhancement of elemental technologies until a decision for deployment is made.

## **OPERATIONAL REQUIREMENT**

- Defend United States homeland (50 states) against limited strategic ballistic missile attack by a rogue nation, should such a threat emerge.
- Provide some capability against a small accidental or unauthorized launch of a strategic ballistic missile from nuclear-capable states.
- NMD ORD validated by JROC - March 1997.

## **FIELDING**

- Potential FY05 deployment (IOC - 05).
- Raytheon design selected as the NMD Exoatmospheric Kill Vehicles (EKV).
- Prototype ground-based radar (GBR) and test facilities at Kwajalein complete and radar is operational.
- Commercial-off-the-shelf booster selected as the Ground Based Interceptor booster.
- At least two candidate system deployment sites - North Dakota and Alaska.

## **ISSUES**

- No Lead Service for the NMD program.
- No lead for user support (Army - Combat Developer).
- Anti-ballistic Missile Treaty will require modification once deployment decision is made.
- Details of transition of funding from Joint Program Office to Army.

# **THAAD**

## **OPERATIONAL CONCEPT**

- Normally Integrated into a Task-Organized Force with Other Members of the Family of Systems ( FoS ) to Provide Near Leakproof Two Tier Defense
  - Against the Short and Medium Range Ballistic Missiles
- Maintains Wide Area Coverage Against Critical Assets and Selected Geopolitical Targets
- Employs Shoot-Look-Shoot Firing Doctrine (Preferred) with Final Kill Assessment and Hand-over to Lower Tier System, if Required
- In the TMD Task Force, one THAAD Btry will Operate with a Lower Tier System (e.g., Patriot Bn, MEADS Bn)

LTC Jordan/DAMO-FDE/697-1087

## **OPERATIONAL REQUIREMENT**

- Provides Defense Against Medium Range Ballistic Missiles (MRBM)
- When Coupled with a Lower Tier System, Provides Near Leakproof Protection and an Upper Tier Capability against Short Range Threats
- Uses Hit-to-Kill Technology for Defense Against WMD
- Interoperable With Other Army, Services, and Allied systems
- High Single Shot Kill Probability; Higher with Double Shots; Highest with Two Tier
- Large Defended Area

## **FIELDING**

- Contingency Capability FY02; FUE FY08
- Total Fielded Program Includes: 1233 Missiles; 80 Launchers, 12 Radar/10 BMC4's Support Equip

## **ISSUES**

- Failure to Achieve Intercepts in Test Program (5 of 5 Non-Hits)
- Congressional and OSD Support Exists for Continuing Test Program (5 Shots Remaining)
- Insufficient Funding to Maintain FY07 FUE; Slipped to FY08
- Congressional Appropriation of \$445.3M versus \$822M in PB
- BMDO and PEO, AMD Reworking Program Based on Latest Guidance

## **ATACMS Block II/A**

### OPERATIONAL CONCEPT

- Engage targets long-range, laterally, and at depth. Disrupt and destroy threat forces and long-range weapons before they can influence the battle.
- Advanced, non-nuclear family of long-range missiles and munitions to attack maneuver, C2, air defense assets, and key logistic facilities.

- Block I (950 M-74 APAM) -- 165km
- Block IA (300 M-74 APAM) -- 300km

### OPERATIONAL REQUIREMENT

- Attack enemy combat forces not yet engaged, destroy enemy capabilities w/immediate impact on the tactical battle
- Current cannon/rocket munitions are inadequate to effectively attack or defeat high payoff, moving or stationary point and area targets at operational depths
- Analysis: ORD approved Jan 99, MS IV COEA Final Report Sep 93.

### FIELDING

**Block I:** FUE AMC 4Q90 -- 683 msIs  
USAREUR 4Q91 -- 407 msIs  
EUSA 4Q91 -- 344 msIs

**Block IA:** FUE EUSA 2Q98 -- 150 msIs  
AMC 3Q99 -- 234 msIs  
USAREUR 1Q01 -- 117 msIs

### ISSUES

- Production is complete on Block I.
- No issues.
- Professional Staffers: John Young (SAC), Steve Nixon (HAC), John Barnes (SASC), Bob Lauthrup (HASC).
- REP Bill Young (FL) (Chairman, House Appropriations Subcommittee - National Security), REP Silvestre Reyes (TX - ATACMS missile "built" in Horizon City), SEN Hutchison (TX)

# ATACMS Block IIIA-BAT

LTC Reagle/DAMO-FDG/693-4873

## OPERATIONAL CONCEPT

- Engage targets long-range, laterally, at depth.
- Advanced, non-nuclear family of long range missiles and munitions to attack moving armor, MRLs, and SSM TELs.
- BAT -- moving armored formations
- P3I BAT -- stationary or moving/hot or cold armored combat vehicles and SSM TELs.
- Block II (w/13 BAT or P3I BAT) -- 140Km
- Block IIA (w/6 P3I BAT) -- 300Km.

## OPERATIONAL REQUIREMENT

- Kill multiple targets in the deep battle; accommodate for large target location error (TLE)
- Current cannon/rocket munitions are inadequate to effectively attack or defeat high payoff, moving or stationary point and area targets at operational depths.
- Analysis: ORD approved Jan 99, Block II COEA Final Report Jan 95.

## FIELDING

- Block II:** FUE AMC 4Q00 -- 626 msls  
EUSA 2Q01 -- 219 msls  
USAREUR 3Q01 -- 311 msls
- Block IIA:** FUE AMC 1Q04 -- 309 msls  
EUSA 3Q04 -- 109 msls  
USAREUR 3Q05 --155 msls

## ISSUES

- ATACMS/BAT requesting LRIP decision from DAB on 22 Feb 99.
- Highly successful Production Qualification Tests concluded in Dec 98.
- Professional Staffers: John Young (SAC), Steve Nixon (HAC), John Barnes (SASC), Bob Lauthrup (HASC).
- REP Bill Young (FL) (Chairman, House Appropriations Subcommittee - National Security), REP Silvestre Reyes (TX - ATACMS missile "built" in Horizon City), SEN Hutchison (TX), SEN Sessions (AL) - BAT production to be moved to Redstone Arsenal.

# SADARM

## OPERATIONAL CONCEPT

- SADARM munitions are urgently needed to defeat stationary threat systems such as self propelled artillery, infantry fighting vehicles, and other armored combat vehicles to support operations.
- SADARM will significantly enhance the artillery's effectiveness by providing the capability to attack & destroy enemy armor formations beyond line of sight.
- SADARM will be used in the Counterfire, Close Support, Interdiction, and Suppression of ADA.

## OPERATIONAL REQUIREMENT

- SADARM must be able to rapidly engage and destroy large numbers of self-propelled artillery with reduced expenditure of ammunition.
- SADARM must facilitate a rapid rate of kill to counter the threat posed.
- ORD is classified secret

## FIELDING

- Initial Operational Capability will occur in 4QFY00 with delivery of 550 Projectiles.
- SADARM will be made available to contingency units, when required. The first 50% of SADARM will remain in swing stocks (CONUS depots and Prepositioned Afloat). This includes the IOC quantity of 550 rounds. After reaching 50% of production, CINCs would receive the second 50% to allocate as necessary. When produced, SADARM P3I quantities would be similarly managed.

## ISSUES

- FUE slipped due to a \$25M Congressional appropriation reduction in production funds. New FUE date is 4QFY00.
- OPTEC's Operational Test, System Evaluation Report found SADARM "not suitable and not effective" - mainly due to reliability at maximum ranges.
- OSD Comptroller's Office has placed \$30.2M under technical withhold pending approval of Program's Path Forward Plan.
- The objective system, Product Improved SADARM, will be carried by an XM982 Projectile.

# HERCULES

## OPERATIONAL CONCEPT

The fielded M88A1 lacks the necessary horsepower and braking to safely support the recovery of the Abrams fleet. Improvements incorporated into HERCULES fix these operational shortcomings. In addition, the increased winching and lifting capability accommodate all Abrams tank models including the 70 ton M1A2. Without the improvements incorporated in the HERCULES, units must use two recovery vehicles or a recovery vehicle and another Abrams to tow a disabled tank.

## OPERATIONAL REQUIREMENT

- Replaces M88A1
  - Safely tow 70 ton Abrams tanks and future 70 ton class combat systems
  - Reduce O&S costs over M88A1
    - 70 ton winch
    - 35 ton hoist / boom
  - Increased ballistic protection
  - Crew: 3 mechanics

## FIELDING

Fielding to 1<sup>st</sup> Cavalry Division began in July 1997. At the conclusion of FY99, there will be a total buy of 101 M88A2s. The current fielding plan is 46 to the 1<sup>st</sup> Cavalry Division (4QFY98), 27 to the 4<sup>th</sup> Infantry Division (2QFY99), 18 to TRADOC (1QFY98-1QFY01) and 10 to the National Training Center (3QFY00). The remaining Force Package 1, 2 and 3 units will not be filled.

AAO = 953 APO = 629 (101 funded)

## ISSUES

- The Army decided not to continue funding the procurement of the HERCULES in the FY00-05 POM. This decision was based solely on affordability within Army modernization accounts in a fiscally constrained environment.
- The HERCULES is on the Army's FY00 1-N list.

# FUTURE SCOUT CAVALRY SYSTEM

## OPERATIONAL CONCEPT

- Conduct area, zone, and route reconnaissance to provide real time intelligence to the tactical cmdr; screen and reconnoiter to provide time and space to the commander, force the enemy to deploy, and identify the enemy's main effort.
- Detect threat beyond target acquisition range; identify enemy beyond direct fire engagement range. Improved survivability, lethality, payload capacity, and mobility over current reconnaissance vehicles (HMMW and M2/3 BFV)

## OPERATIONAL REQUIREMENT

- Manned ground scouts are needed on the battlefield; current systems are deficient; the HMMWV is unprotected and lacks mobility and the Bradley is too big and detectable; non-material solutions have not solved the problem.
- May 1997 FSCS Cooperative Program Exploratory Analysis (CPEA)
  - Full Joint AoA planned parallel with the ATD (FY98 to FY01)

## FIELDING

- 1076 ea Estimated Fielding; FUE FY07
  - Fields six hvy Div's and Two ACR's
  - 1 Cav Div 110 ea by FY08
  - 3 ID 110ea by FY 09
  - 3 ACR 95ea
  - 2 ACR 95ea
  - 2ID 102 ea
  - 4ID 110 ea
  - 1ID 110 ea
  - 1AD 110 ea by FY16
  - TNG/APL 234 ea (between FY08-16)
- 

## ISSUES

- New start!
  - Cooperative Program with the UK. US/UK will cost share (50/50) the ATD and EMD phases resulting in increased competition and cost savings
  - Impact Reserve Component: FSCS will trigger the cascading of some 600 LRAS3 systems to ARNG Battalion Scout Platoons.

M1A2 SEP

OPERATIONAL CONCEPT

- The principal armored combat system on the battlefield to defeat enemy forces using fire and movement
    - Spearhead the assaulting elements of the combined arms team in the offense
    - In the defense, exploit the mobility and agility to move to positions of advantage over the enemy

PHYSICAL PREVENTION SCHEMES

## **OPERATIONAL REQUIREMENT**

- Increased 120mm probability hit/kill
  - Increased target acquisition and engagement rates
  - Commander's Independent Thermal Viewer (provides hunter/killer capability)
  - Integration of 2d GEN FLIR
  - Increased range capability of eye safe laser range finder
  - ACOE compliant

## ISSUES

- Armored System Modernization Report
  - Industrial Base
  - Gun mounts (50/50 split - GDSLs and Rock Island Arsenal
    - Lima Army Tank Plant
    - DU Armor
  - Committees - SASC (Jon Barnes, Dan Cox) SAC (Kraig Siracuse, Tom Hawkins) HASC (Roger Smith, Doug Necessary) HAC (Trish Ryan, Greg Dahlberg)
  - Foreign Military Sales - Greece and Turkey

# M2/3 BRADLEY FIGHTING VEHICLE (ODS/A3)

## OPERATIONAL CONCEPT

- Combined Arms partner to M1A2 SEP and M1A1D
- Infantry Fighting Vehicle provides protected transport to infantry squad to conduct close fight
- Defeats enemy infantry carriers and other light armored vehicles. Able to defeat tanks out to 3750 meters with TOW IIA/B
- Provides Infantry, Cavalry, Air Defense, and Field Artillery versions

## OPERATIONAL REQUIREMENT

- A2 ODS: LRF, POSNAV, Integrated GPS, BCIS ready, FBCB2 Applique
- A3: Advanced technologies integration, 2nd GEN FLIR, digital C2, Commanders Independent Viewer (with 2d GEN FLIR), improved BFV acquisition system, Commanders/squads tactical displays

## FIELDING

<u>A3</u>	<u>ODS</u>
• 4ID	FY 00-01 FY 01-03
• 1CD	• 4D FY08
• APS 5	•APS3 FY 04
• APS3	•1CD FY06
•3ID	•3ACR FY03
	•1AD FY08
	•APS 5 FY02
	•NTC FY07
	•2ID FY07

## ISSUES

- Congressional Interest (Past)
  - Concern over delayed fielding of A2 BFV to ARNG - Congress added \$95M (98) and \$70M (99) for ODS for ARNG. ARNG expresses concern over AO survivability
  - Congress directed that A0 to A2 upgrades continue until complete
  - Committees - SASC (John Barnes, Dan Cox); SAC (John Young, Tom Hawkins); HASC (Roger Smith, Bob Lautrop); HAC (Trish Ryan)
  - Unfunding M6A1 (FY04-07) during POM 00-05 and increasing M6 requirement caused current shortfall of 72 Linebackers.

Main Contractor: UDLP (York, Pennsylvania plant)

# **AVENGER**

## **OPERATIONAL CONCEPT**

- The Avenger is a Line-of-Sight Air Defense Platform for defeating low altitude aerial targets, including UAVs and cruise missiles. The Avenger has 8 ready to fire Stinger surface to air missiles and a .50 caliber machine gun. The system protects friendly assets in the division and corps areas. Current upgrade is for the Slew-to-Cue capability, which automatically slewsthe turret onto the target.

## **OPERATIONAL REQUIREMENT**

- Requirements are for 48 per special division, 36 per light and heavy division, 24 per light ACR and 8 per heavy ACR.
- ARNG requirement is for 36 per Corps Avenger battalion.
- ARNG eSSBs require 12 per light BDE, 6 per heavy BDE, and 8 per heavy ACR.

## **FIELDING**

- The Avenger is fielded to the AC divisions and 9 ARNG Corps Battalions.
- The last of nine ARNG Avenger battalions (SC) will be fielded in FY99.
- Procurement in FY99 through 07 are for seven COMPO 4 Avenger battalions in the ARNG.

## **ISSUES**

- STC funding was eliminated in FY00 by OSD. This will postpone fieldings by one year to all units after 4th ID and 82nd ABN Division

## M6 LINEBACKER

### OPERATIONAL CONCEPT

- The Bradley Linebacker provides dedicated forward air defense fire units with the capability to fire Stinger missiles while the crew remains under armor protection. The system also has the 25mm chain gun and a 7.62mm machine gun. The Stinger missile can engage threat aerial platforms, including UAVs and cruise missiles. The M6 is a highly mobile, survivable vehicle compatible with the combined arms team.

### OPERATIONAL REQUIREMENT

- The M6 is authorized 24 per heavy division and 12 per ACR.
- APS 3 and 5 also require 24 systems.

### FIELDING

- FY99 fieldings are to 3ID, 4ID, 1CD.
- FY00 fielding to 3ACR.

### ISSUES

- 99 Linebackers have been procured for all FP1 units (3 ID, 1 CAV, 3 ACR) and partial FP2 (4ID)
- UFR for 72 systems to complete AC requirement. Currently 1ID, 1AD, and 2ID do not have the M6.
- Integration cost of integrating the FAADC2 and FBCB2 onto a common installation kit is unfunded.

## **SWORD**

### **OPERATIONAL CONCEPT**

- SHORAD with Optimized Radar Distribution (SWORD) is an S&T project in SMDC. The concept is for a radar directed, kinetic kill missile to intercept and destroy multiple 240mm rockets. The system is focused on the North Korean chemical rocket threat. Concept is for a Battery (3 platoons to defend critical assets in Korea.

### **OPERATIONAL REQUIREMENT**

- There is no MNS or ORD for this proposed system.
- 8th U.S. Army submitted an ONS in Jun98. HQDA provided an interim response in Sep98.
- FDJ has submitted the ONS for staffing prior to establishing a requirement.

### **FIELDING**

- None- system is not funded.

### **ISSUES**

- OSD directed DARPA to conduct an analysis of the concept to see if it is technically feasible. DARPA's preliminary conclusions are that it may be feasible, but extremely risky and may not be able to accomplish its designed mission.
- SMDC conducted a concurrent study on the feasibility of the project. Their conclusion was that it was technically feasible.
- Funding remains an issue. OSD will not fund unless DARPA recommends to do so. The Army has no funds to conduct further research.

## FAADC2

### OPERATIONAL CONCEPT

- Forward Area Air Defense Command and Control (FAADC2) integrates weapons, sensors, and command, control, communication, and intelligence architecture to counter the entire spectrum of the air threat to the forward area.

- The digital real-time/near real-time Air Defense early warning and command and control to the Forward area; essential link between sensor and shooter.

### OPERATIONAL REQUIREMENT

- Provides automated air picture, A2C2 data, Force and Engagement Operations, and interface with ABCS to the combined arms team at Division level and below.

- Analysis of FAADC2 has occurred during several tests and exercises since the systems inception in 1993. TFXXI AWEs have served as a recent tool to evaluate the systems success. Existing ADA early warning systems include visual detection through voice early warning; FAADC2's leap-ahead technology can hardly be compared to the current system.

### FIELDING

<u>UNIT</u>	<u>FY</u>	<u>UNIT</u>	<u>FY</u>
3ACR	98	2LCR	02
1-204 (MS)	98	2-265(FL)	03
25ID	98	2-263(SC)	03
1-200(NM)	99	BN#10	04
1ID	99	BN#11	04
1AD	99	BN#12	05
3-200(NM)	00	BN#13	05
3-265(FL)	00	BN#14	05
4-200(NM)	01		
1-265(FL)	01		
2-174(OH)	02		

Previously fielded
101st, 1CAV, 2ID, 3ID 10MTN, 82nd, 4ID

### ISSUES

- Developing software to merge FAADC2 with FBCB2. Will realize significant hardware and communications equipment savings.
- Significant funding shortfalls include CHS-2 for initially fielded divisions and digital radio IK retrofit for EPLRS.
- Current POM and EPP funding stream is sufficient to field all 16 ARNG EAD Battalions and 17 Enhanced Separate Brigades.

## RAH-66 COMANCHE

### OPERATIONAL CONCEPT

Comanche is Army Aviation's #1 priority.  
Resolves the #1 battlefield deficiency: Armed Recon. Comanche is a versatile, self deployable, day/night, lethal, and supportable weapon system for the 21st Century battlefield. Comanche replaces legacy systems such as the OH-58A/C, OH-58D and AH-1. Comanche is a critical element of our nation's defense; a key element of gaining and maintaining full-spectrum information dominance.

### OPERATIONAL REQUIREMENT

- A fully-digitized, simple-to-maintain aircraft with improved optics, auto target detection and classification, low RCS / IR signatures, and a wide range of armaments.
- Key Performance Parameters (KPPs):
  - VRROC - 500fpm (threshold)
  - 750 fpm (Objective)
  - RCS - Classified
  - IR- Classified
  - Target ID- Classified
  - Link 16 - Digital exchange with Joint and Combined forces

### FIELDING

- IOC Dec 06 / FUE FY07 (1st Cav Div)
- Strategic Reserve fielding complete in FY26.
- Comanche will be fielded to AC and RC Div Cav Squadrons, Light Attack Battalions, and ACR's.
- AAO: 1292 (1213 with elimination of TARCS/TARPS)

### ISSUES

- Comanche funding increases in FY04-05 as procurement ramp-up begins.
- OSD CAIG believes the program is underfunded \$150M. Army Cost Position is the program is fully funded - a review will be conducted again in July 99.
- A Comanche+ variant is a possible AH-64D replacement starting in FY18.

# APACHE LONGBOW (LBA)

## OPERATIONAL CONCEPT

- Employ as a maneuver element supporting the Corp/Division Commander's scheme of maneuver.
- Provide a highly mobile and lethal attack capability against personnel, ground and air targets.
- Conduct missions during day and night, in nuclear, biological, and chemical and extreme environments across the spectrum of conflict from operations other than war to major regional conflict.

- Increased system performance over the AH-64A:
  - Adverse weather and obscured battlefield capability.
  - Versatility, lethality, survivability and supportability.
  - Operator and maintainer efficiency.
  - Fire and Forget missile
- Digitization: High speed transmission and receipt of data
  - FCR transmit TGT handover messages to other AC
  - Fixes all Operation Desert Storm shortfalls:
  - Communications
  - Navigation
  - RAM

## FIELDING

- Acquisition Procurement Objective: 746 AH-64D
- CSA Decision: Resourced Constrained to Procure 530 AH-64D by FY05
  - First Multi-Year (MY,FY96-00) covers 232 LBAs.
  - Second MY (FY01-05) covers 298 LBAs.
  - Field by FY05: 15 AC AHBs, 1 AC ACR, 2 NGB AHBs, and 1 USAR AHB; by FY06-08: 7 NGB AHBs and 1 USAR AHB
  - 1-227th AHB, 1st CAV, Ft Hood IOC Date: Nov 98
  - III Corps "digitization" units fielded by FY04.
  - Funded for 241 Fire Control Radars (FCR).
  - Cascade 216 AH-64A to the NGB to retire "legacy" AH-1s fleet.

## ISSUES

- Additional program cost:
  - Increase FCR buy to compensate for AHB "Interim" design, FY06-17.
  - Cost to SLEP and to maintain 216 AH-64A in NGB, FY06-24.
  - FCR mix: Aviation Attack/Reconnaissance AoA due 1 OCT 99.
  - TRADOC opposes interim force structure design (24 to 21 ship AHBs)
  - 2nd Gen Aviation FLIR lead (HTI or PEO Aviation) and clarification Comanche/Apache system requirements.
  - Prime Vendor Support concept is crucial to LBA readiness & cost savings (Rep Ortiz (TX) - Chrmn Depot Caucus represents CCAD district)

# **M1 BREACHER (GRIZZLY)**

## OPERATIONAL CONCEPT

- Digitized Armored Breaching system for breaching simple and complex obstacles in support of a Abrams or Bradley based force.
- Provides a full-width clear lane (4.2m) through minefields, rubble, tank ditches, wire, and other obstacles while under armor.
- The current heavy force cannot breach many obstacles w/o stopping to conduct a deliberate breaching operation. The Grizzly will enable the force to breach all obstacles in stride.

## OPERATIONAL REQUIREMENT

- Mobility, survivability, & sustainability comparable with M1A2
- Clear standard minefield (down to 12" deep) at 4.5 mph in a single pass
- Reduce standard anti-tank ditch within 5 minutes
- Grizzly is a new capability and does not replace any existing system. COEA demonstrates a clear improvement in force capability & survivability over separate, non-survivable tools which the commanders currently use.

## FIELDING

- 1 Cav Div (FY04: 24; FY05: 12)
- 3 Inf Div (FY06: 12, FY07: 24)
- 3 ACR (FY07: 6)
- 5 Engr Bn (FY08: 12)
- 2 Inf Div (FY08: 12, FY09: 24)
- 4 Inf Div (FY11: 36)

## ISSUES

- Prime Contractor is UDLP (York, PA). Is in Congressman Goodling's district.
- Army has no under armor complex obstacle breaching capability. Fielding the Grizzly to meet this requirement is the #1 priority for our mobility systems.
- TRADOC & USAES are developing new fielding plans which will provide Grizzlies to the National Guard Enhanced Brigades.

# HEAVY ASSAULT BRIDGE (WOLVERINE)

## OPERATIONAL CONCEPT

- Digitized armored bridging system which supports M1A2 based force with survivable, mobile assault gap crossing capability
- Provides a MLC 70 bridge which can bridge a gap 50% longer than existing systems.
- Similar maintainability/supportability as supported force through use of M1A2 SEP chassis and Abrams compatible spares and TMDE.

## OPERATIONAL REQUIREMENT

- Cross gaps up to 24 m wide
- Support MLC 70 crossing @ 16 kph
- Bridge emplaced within 5 minutes
- Mobility, survivability, & sustainability comparable with the M1A2.
- EMD II testing - launch times & bridge durability met operational requirements
- LFTE - improve survivability over AVLBS

## FIELDING

- 4 In Div (FY00: 12, FY02: 12)
- 1 Cav Div (FY03: 24, FY04: 12)
- 3 ACR (FY05: 15)
- 3 In Div (FY06: 36)
- 5 Engr Bn (FY07: 12)
- 2 In Div (FY08: 36)

## PRIMECONTRACTOR IS GDLS (MI - Senator ISSUES)

- SAC decremented \$6.6M in FY99 RDTE. Is Army's #32 priority to be restored.
- Wolverine is built on a common chassis with the Abrams M1A2 SEP. All changes to that program have a direct impact on Wolverine procurement & production
- Wolverine will be fielded to 4 RC corps mechanized engineer units. Displaced AVLBS will be cascaded to RC.
- Wolverine fielding is very slow. Buy one En Bde per year through the POM & EPP.